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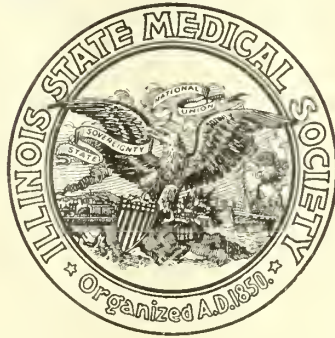
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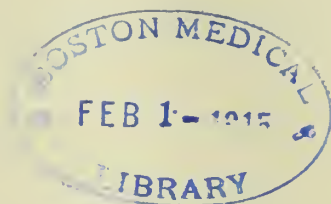
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This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the names of papers

read, officers elected, etc., can be located in the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health Items are classified under these headings. The subjects of editorials also appear alphabetically and are marked (E).

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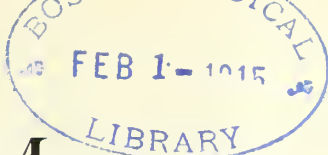
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Original Articles

STENOSIS OF THE PYLORUS IN INFANCY *

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BOSTON

Mr. President, Ladies and Gentlemen, Members of the Illinois State Medical Society:—I thank you for this invitation to address the annual meeting of the Illinois State Medical Society.

With the approval of your committee I have chosen for the subject of my address, "Stenosis of the Pylorus in Infancy." The very great interest that we have all taken in gastric and duodenal surgery in the past few years makes me bold to ask your consideration to-day of this rather special disease of infancy.

I shall divide my address into four parts: First, a systematic statement of the facts of the disease; second, reasons why the treatment should be surgical; third, a consideration of two problems which have arisen in connection with the study of these cases; fourth, a report of my own experience with these cases; and in conclusion, a demonstration by lantern slides of the easily demonstrable facts concerning pyloric stenosis in babies.

1. First then, a systematic statement of the facts of the disease: The pathology. A pyloric tumor is always present. It is about the size of the terminal phalanx of a finger or thumb, oval in shape, smooth of surface, firm or hard, like cartilage. There are never adhesions about it. The lumen of the pylorus is narrowed. The longitudinal folds of mucous membrane are enormously hypertrophied, adding to the narrowness of the lumen. This tumor is caused by an overgrowth and an hypertrophy of the circular

muscle fibers of the pylorus. The tumor is a muscle tumor; it represents an overgrowth of muscle tissue.

The tumor is as evident at autopsy as on the living. It exists in the living, whether gastric peristalsis is present or not. It is no more evident to direct touch when gastric peristalsis is present than when there is no gastric peristalsis. It is a passive tumor. Muscle contraction is not necessary to its existence.

That the pyloric tumor encroaches on the lumen of the pyloric canal is proven not only by the clinical signs in these cases, but by direct examination of the stomach at autopsy and at the operating table. The tumor itself is sufficient cause for the obstruction to the pyloric canal. The obstruction is an anatomic one, and is not necessarily dependent on physiologic causes. The significance of this fact will appear later.

All other pathologic changes are secondary to the obstruction caused by the tumor, viz., the thickened or stretched gastric wall, the dilated esophagus, the empty intestine, the emaciated and wizened body of the baby.

The Etiology.—What is the cause of this tumor found at the pylorus in these new-born babies? This has been the subject of much speculation. The most likely hypothesis is, I think, the one that considers it a congenital anomaly. The tumor represents a congenital overgrowth of muscle tissue. In support of this view are the following considerations:

a. The earliest indications of the presence of a pylorus is in the third month of fetal life. There is, therefore, ample time for the growth of muscle tissue to take place.

b. There is one case recorded in literature by Dent of a pyloric tumor in a seven-months old fetus. The tumor shows the same structure that is found in the stenosis cases examined after birth.

c. The symptoms in these cases appear so near to birth that it is impossible to conceive of the overgrowth of muscle as having taken place

* Address delivered at the Annual Meeting of the Illinois State Medical Society, Peoria, Illinois, May 22, 1913.

between birth and the onset of symptoms. My youngest case was only 14 days old.¹ The tumor in this case was fully developed and as definite as those seen in cases 3 months old.

d. The tumor is associated occasionally with other congenital defects, such as imperforate anus and clubfoot.

e. Aberrant Brunner's glands that normally belong only in the duodenum have been found in the tumor at the pylorus. It seems to me therefore that the evidence at hand favors a prenatal or congenital overgrowth of muscle tissue as the best explanation for the tumor present in these cases of infantile pyloric stenosis.

Why talk of or consider the etiology? Because it is important to determine the significance of spasm of the pylorus which is said to occur in certain of these cases. If it is likely that a congenital overgrowth of muscle is the cause of the tumor, then spasm, which has never yet been known to have caused an hyperplasia, is removed still further from the field of symptomatology in these cases. I think it will appear as the facts concerning this disease are unfolded that spasm has little, if anything, to do with these cases of tumor obstruction.

The Symptoms.—The symptoms are those of obstruction. The patient is usually a healthy appearing, breast-fed boy. There is at first, often overlooked, loss of appetite. The baby does not care to nurse. Vomiting appears soon after birth or within the first two or three weeks. This vomiting is characterized by its persistence and its projectile character. It is the vomiting of obstruction. The quality of the food seems to make no difference with the vomiting, the vomiting depending rather on the quantity taken. The amount of the vomitus depends largely on the amount of the feeding. The material vomited is the food taken. The vomitus never contains bile, an excess of HCl, blood, mucus or lactic acid. Because of the little material passing through the pylorus into the duodenum the baby is constipated. The dejections are consequently small in amount; there being very little milk residue, the stool, consisting almost entirely of bile, pancreatic juice and cast-off epithelium, is meconium-like.

There is a progressive loss of weight. The child has not been receiving sufficient nourishment to keep the weight up to the normal gain. Instead of the normal gain there is an actual loss. There may be erratic gains in weight which subsequently are lost. If the baby's abdomen is uncovered while the baby is feeding, or while the

baby is taking water from the bottle, there will be noticed rather vigorous peristaltic waves passing across the upper half of the abdomen from left to right. This visible peristalsis is very marked in many cases. The stomach is contracting violently in the attempt to overcome the obstruction. If the abdomen is palpated from the side and from before backward, in about from 60 to 80 per cent. of the cases it will be possible to feel the tumor between the thumb and finger. This will be noticed more readily just after the peristaltic wave passes the pyloric portion of the stomach. The tumor may be obscured by an enlarged liver, by enlarged lymphatic glands, or even by the lower pole of the right kidney. The stomach itself will be dilated, particularly if the baby has lived some time after the obstructive symptoms have been present.

The obstructive vomiting, the palpable tumor, the visible peristalsis, the meconium-like stool, the epigastric fullness, the continual loss of weight, these are the symptoms of pyloric obstruction in infancy. Despite experiments with feeding and the use of drugs of various sorts, the baby gradually wastes away and dies of starvation; dies of a pyloric obstruction.

This is the typical picture of an unrelieved pyloric stenosis in infancy, and it is the usual termination. The death certificate in cases of this kind in the past, and also to-day, is often signed by the attending physician: Inanition, acute gastritis, infantile atrophy, gastro-intestinal catarrh, marasmus, dyspepsia or pyloric spasm.

Diagnosis.—The diagnosis in typical cases is comparatively easy. However, there are many cases of babies difficult to feed who may be suspected of having a pyloric tumor. Pediatricians have employed the term "spasm of the pylorus" in order to explain the obstructive symptoms seen in little babies who suffer from persistent vomiting, and in whom there is a demonstrable tumor. This idea of a spasm of the pylorus is a purely hypothetical notion introduced by clinicians to account for symptoms which they are otherwise unable to explain. There is little doubt that there is a group of cases difficult to feed which are fairly easily explained by the idea of pyloric spasm without the tumor. These supposedly pure spasm cases occur in bottle-fed, excitable, irritable, neurotic babies. The onset of symptoms is several weeks after birth. The stools contain fecal material. A pyloric tumor, if felt, is felt only when the gastric contraction occurs. The vomiting lacks the characteristics of the

1. Boston Med. & Surg. Jour., Dec. 14, 1905.

tumor cases. Cases of obstruction from pyloric spasm sometimes die from starvation.

The serious and desperate cases are the ones that may become confused with the true tumor cases. These desperate spasm cases may occasionally, but very rarely, require surgical treatment.

The employment of the x-ray for diagnosis in these doubtful cases is likely to prove of a good deal of assistance. The behavior of the stomach in a normal baby after the milk of bismuth has been introduced into it is definitely known. The behavior of the stomach in a case of pyloric obstruction due to tumor when the milk of bismuth is introduced is likewise known. If bismuth is introduced into the stomach of a baby having a supposed pyloric spasm, the behavior will be often different from the record in either of the other two conditions. This difference may be helpful in the differentiation of these conditions. Every suspicious case of pyloric obstruction in which there is doubt as to whether there is a tumor or not should be x-rayed. The subnitrate of bismuth may be administered by mouth and the stools watched for the appearance of bismuth crystals. The appearance of these crystals in the stools will be indicative of something passing through the pylorus. If the stools are infrequent and small in amount, these facts in themselves may be significant.

The Prognosis.—The mortality of this disease is high. Most cases of congenital pyloric stenosis die of starvation. The question is how long will it take a small baby to starve to death while the family physician experiments with drugs and foods, which under the conditions are absolutely of no use? It will take about three months, and this is the usual length of life of these small babies. Of course, the degree of obstruction in these cases, as has already been pointed out, varies. A baby with considerable obstruction will live a shorter time than a baby who has less obstruction, other things being equal.

There are cases being reported each year of young adults who have suffered during infancy and childhood from partial pyloric obstruction. Such individuals reaching maturity after years of gastro-intestinal invalidism, poorly nourished and probably underdeveloped — such individuals are more frequently than formerly being recognized as instances of babies who have had a partial pyloric obstruction and have survived despite the obstruction. Hezekiah Beardsley,² in 1788, reported the case of a child who had lived five years

with a pyloric tumor, which was determined at the autopsy. Habersohn,³ Lebert,⁴ Landerer,⁵ Rudolph Maier,⁶ Dunne,⁷ Tilger⁸ and Barling⁹ all have reported cases of this sort.

2. *Treatment.*—I believe that the treatment of stenosis of the pylorus in infancy should be surgical as soon as the diagnosis is made and for the following reasons:

That the pure pyloric spasm obstruction can be cured by medical treatment in a large proportion of cases is true. It is also true, so far as I am able to learn, that there is no case of true tumor which has yet been cured by medical treatment. So far as I am able to determine, no so-called medically "cured" case has ever been proven to have had the disease, but on the other hand many cases of supposed "cure" have relapsed and have been subsequently treated surgically. The tumor has been demonstrated to exist and a cure by surgical means has followed. Those who advocate and practice the medical treatment of true tumor cases do so on the erroneous hypothesis that muscle spasm is the chief cause of the obstruction. They lose sight of the fact that it is the tumor that obstructs. At best, medical treatment relieves only hypothetical spasm that perhaps accompanies certain tumor cases. Medical treatment does not effectively remove the primary cause of the obstruction.

The improvement in Heubner's series of cases and in the cases of others who have thought that they have been treating tumor cases with success is to be accounted for on the basis of a mistaken diagnosis, or a temporary and not a permanent cure.

It was about twenty-three years ago that the pyloric tumor cases were first well described. During all these twenty-three years the physician has painstakingly striven to treat such cases by medicines and by carefully prescribed feeding. The estimated mortality from an expectant medical treatment is between 80 and 90 per cent. (Monier). It is on this carefully studied medically-treated post-mortem material that much of our present pathologic knowledge of this disease is based. The medical treatment of the tumor cases has signally failed to effect a cure.

What has surgery already accomplished in the care of these cases? Surgery has gradually lowered the mortality in the treatment of these

3. Habersohn: *Diseases of the Abdomen*, 1862.

4. Lebert: *Diss.*, Tübingen, 1878.

5. Landerer: *Diss.*, Tübingen, 1879.

6. Rudolph Maier: *Virchow's Arch.*, 1885, Bd. cii, s. 413.

7. Dunne: *Jahresbericht d. Jenner'schen Kinder-Hospitals*, 1881, Bd. xix.

8. Tilger: *Virchow's Arch.*, 1893, Bd. cxxii, s. 290.

9. Barling: *The London Lancet*, Jan. 25, 1913.

2. Beardsley, Hezekiah: *Trans. New Haven Co. Med. Soc.*, 1788.

cases. The mortality, once high, very distinctly is decreasing. The first time surgeons attempted to treat this disease was in 1898. From 1898 to 1905 is a period of seven years. During this period gastric surgery was developing. Operative technic was unsettled. The choice of procedure adapted to certain conditions was undetermined. This was an experimental period for gastric surgery in the adult and absolutely a new field in infants. Several different operations were done by many operators for the same condition. The cases operated on had gone almost the limit of life under medical experimentation. Is it any wonder that the mortality from surgical operation during this period on such material was very considerable? The mortality for this period was 46.5 per cent. No apology is needed here for this mortality, for more than half the babies entrusted to the surgeon were saved by operation. Even this was a great improvement over the medical mortality.

Consider now the next seven years, the period from 1905 to 1912. The lowering of the mortality under surgical treatment has been remarkable. I have not yet collected all cases operated on during this period. I have three groups, however, which are fairly representative of the period.

a. The group of ten cases operated on from the Pacific Coast, collected by Stillman. In this group six different surgeons operated. A posterior gastro-enterostomy was done in each case. Of the ten cases, only one died.

b. The group operated on by Richter¹⁰ of Chicago. There were nine cases, only one died.

c. My own group of seventeen cases with three deaths, a mortality of 17.6 per cent. A total, therefore, of thirty-six cases with five deaths, or a mortality of 13.8 per cent.

The mortality of posterior gastro-enterostomy in congenital stenosis of the pylorus is low under the above conditions.

3. There are two important problems which this group of cases helps to solve.

a. What is the effect of gastro-enterostomy on the metabolism of the body? There are those who think that a gastro-enterostomy impairs digestion. The passage of the food through the artificial stoma is looked on as a real harm to the individual. Digestion, they say, cannot proceed in the proper fashion, and the individual will suffer because of such impairment of digestion.

In order to determine the effect of gastro-enterostomy on digestion it occurred to me that

these babies with congenital stenosis might serve for metabolism investigations. The work done by Dr. Talbot of Boston, on a series of babies who had had a posterior gastro-enterostomy done for a stenosis of the pylorus, has demonstrated that in these cases there is no impairment of the digestion of fat, starch and protein. The details of these experiments, together with the results, I have already reported with Dr. Talbot in a former paper.¹¹ If to the chemical evidence thus obtained be added the clinical fact that all these babies, without exception, are apparently thriving and in perfect health, have lived several years following the operation and gained in weight and height, the evidence is overwhelming that in these human babies gastro-enterostomy has no deleterious effect on the metabolism as measured by the digestion of fat, protein and starch and the normal development.

These experiments serve to confirm the work of Cameron and Paterson and make it absolutely conclusive that in the otherwise normal individual a posterior gastro-enterostomy has no harmful effect on digestion, so that the opposition to this operation cannot be based on any such conception as stated above.

b. The second question that arises in connection with these cases is what becomes of the muscle tumor at the pylorus; does it disappear as the child grows older? I think from the evidence at hand that it probably persists and does not disappear, and for the following reasons:

a. Through the assistance of Dr. W. J. Dodd of Boston, Skiagrapher at the Massachusetts General Hospital, and Instructor in Roentgenology in the Harvard Medical School, I have been able to obtain further x-rays on this series of stenosis of the pylorus cases operated on by me, and these x-rays show uniform findings. In every case, no matter how many years following operation, the bismuth meal is seen to pass through the stoma, and in only a very few is it seen to pass in slight amount through the pylorus. In other words, the obstruction at the pylorus, which has been proved in each of these cases to have existed, is demonstrated by the x-ray to still exist. The tumor is still present and still obstructs.

b. It has been demonstrated by certain physiologists that if the pylorus remains open and is unobstructed the stomach contents will be forced through the pylorus, even though an artificial stoma be present. On the other hand, it has been demonstrated that if the pylorus has been closed by some form of obstruction either par-

10. Richter has had 9 cases with 2 deaths since.

11. Surg., Gynec. and Obst., September, 1910, pp. 275-287.

tially or completely, the food will be forced through the artificial stoma in whole or in part. In these cases the food is seen to be going through the stoma, and it is reasonable to suppose, therefore, that the obstruction still persists. In other words, the physiologic evidence confirms the evidence from the x-ray.

c. Bearing on the persistence of the pyloric tumor after operation mention must be made here of the pathologic evidence in the unique case of Morse-Murphy-Wolbach.¹² The facts are these: A boy baby with pyloric stenosis diagnosed by Dr. J. L. Morse, was operated on by Dr. F. T. Murphy by a posterior gastro-enterostomy. The pyloric tumor was seen and palpated. The child lived 7½ months weighing then 19 pounds. During this time the baby had developed as a normal child, was breast fed, had not vomited, and had had normal movements. When 8 months old, the baby died of nothing connected with the operation. Fortunately, a complete autopsy by Dr. Wolbach was secured. The artificial stoma was found patent and functionally efficient. The pyloric tumor—and this is the point of present especial interest—persisted and appeared as at the time of operation. Microscopical study found the tumor to be a true tumor of circular muscle-fiber hypertrophy. This is the only instance of congenital pyloric stenosis that has been studied so long as six and one-half months following a successful gastro-enterostomy.

d. Attention should be called to the increasing group of adult cases of partial obstruction reported by Beardsley, Landerer and Barling and others, who have had symptoms of pyloric obstruction for many years and have reached young adult life with all the evidences of difficult feeding and impaired nutrition. These are cases with a pyloric tumor which has partially obstructed the lumen of the pylorus, not sufficiently to have caused death from starvation, but only sufficiently to have caused impaired digestion and malnutrition.

This evidence, then, from the x-ray, from physiology, from the post-mortem table, and from clinical observation, this evidence points pretty conclusively to the fact that the muscle tumor at the pylorus does not materially change. This is not a mere academic question, but it has, of course, a practical bearing, and places the surgical treatment of this condition on a very firm basis.

4. I wish to report here in detail the seventeen cases treated by me surgically and to call attention to the fact that whereas the first twelve cases

were operated on without a death, there have been three deaths in the last four cases, the deaths being dependent on the starved condition of the baby at the time of operation. This experience only serves to emphasize the importance of as early a diagnosis as possible in order that the surgical operative measures may be undertaken with the very greatest chance of the baby's recovery.

I operated during the past eight years on two babies who were thought to have a pyloric tumor, and it was found at operation that they had no tumor. One case recovered from the exploration and is well to-day. One case died of some strange skin eruption unconnected with the operation. I have never operated on a case of supposed pyloric spasm.

AN INQUIRY INTO THE CAUSE OF BRONCHIAL ASTHMA*

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CHICAGO

In order to facilitate the discussion of the etiology of bronchial asthma, the disease may be divided into two clinical forms. In one, the paroxysms of dyspnea first make their appearance in early childhood, and henceforth occur with varying degrees of periodicity. They are induced by some irritant which the sufferer knows will excite his asthma, as e. g., animal emanations, odors of plants, some particular article of food, indiscretions in diet, etc. The paroxysms last a variable length of time and usually are arrested by some particular remedy, as the fumes of some asthma powder, a hypodermic of morphin, etc. During the asthma-free intervals the patient is free from dyspnea and may feel entirely well. Lastly, the individual may be permanently relieved of his asthma by change of climate, especially when the exciting agent is found to be the pollen of some particular plant, although in some cases mere change of locality proves remedial even when no especial irritant can be identified.

These peculiarities have led clinicians to assume a neurosis as the underlying basis of the disorder, while the often prompt amelioration of symptoms afforded by some favorite remedy seemed to warrant the assumption of spasm of the bronchi as well as the theory that the action of the exciting agent was brought about reflexly either by stimulation of the circular bronchial

¹². Boston Med. and Surg. Jour., 1908, clviii, 480.

* Read before the North Side Branch of the Chicago Medical Society, April 11, 1913.

muscles or through the vasomotor system and consequent hyperemia and edema of the bronchial and nasal mucosa. It is not necessary to consider other theories, such as inspiratory spasm of the diaphragm, Kurschman's catarrhal bronchiolitis and the presence of Charcot-Leyden crystals, since these are but symptoms or manifestations of the underlying disorder.

Until within the last few years these manifestly inadequate attempts at explanation of the etiology of asthma were accepted and dominated our therapeutics. We were able to relieve the paroxysms, but not to effect a permanent cure; or if by chance this latter did occur, we were not able to account satisfactorily for the fortunate result. But there now has come to the front an explanation of the phenomena of disease which rests not on hypothesis, but on demonstrated, scientific facts, and which not only enable us to understand the symptomatology of bronchial asthma, but in many cases provides a rational method of treatment. This new conception of the nature of asthma, as many of you may know, is found in what has received the name "anaphylaxis."

Before elaborating this theory in its application to bronchial asthma, let me describe briefly the second form in which we recognize this distressing malady. This type does not begin in early life, and there seems to be no inherited predisposition. It develops ordinarily after the individual has reached adult age, and, according to my observation, very soon assumes the clinical features of chronic bronchitis with emphysema, but with paroxysmal exacerbations of the dyspnea. The individual is distressed all the time, but frequently, perhaps daily or nightly, suffers from such an aggravation of his dyspnea that it then truly merits the term, bronchial asthma. The disease is in essence the same as the distinctly spasmodic or nervous form, but intervals of entire freedom from a sense of respiratory distress do not occur, or are abbreviated to a few hours, it may be, instead of days or weeks. Measures addressed to relief of the sufferer may be still efficient, but their effect is transient or less pronounced.

How now does the principle of anaphylaxis apply to these cases? In order to make this entirely intelligible, let me give a concise statement of the essential facts of this enlightening view of the phenomena of disease.

By anaphylaxis is meant a protein sensitization or hypersensitiveness on the part of the animal to protein introduced into the system either by way of the alimentary canal or paren-

terally, that is, by some other channel which permits absorption. This foreign protein may be labile and active in the form of bacteria or protozoa, or it may be stable as egg albumin, and hence may be of animal or vegetable origin. So soon as this foreign protein enters the system of the animal, certain body cells develop a proteolytic ferment whose specific function is to attack, split up and destroy, that is, digest the protein. In this cleavage process two groups of elements of the protein molecule are liberated, one a poisonous or primary group which Vaughan¹ likens to the acid portion of a neutral salt, and another or secondary group which is not toxic. This secondary group, according to Vaughan, gives the distinctive characters to the protein molecule, and by him is likened to the basic element of a salt.

The splitting up then of the protein frees the poisonous portion of the molecule, and if this be in sufficiently large amounts, produces toxic symptoms. The secondary and characteristic portion of the protein molecule, also set free, is that which sensitizes the animal to this particular protein. The next fact to be remembered is that the proteolytic ferment generated by the body cells is capable of destroying only the one kind of protein that called it into being, and no other. For instance, if the protein be egg white or a certain bacterium, the ferment can split up only the egg albumin or the particular germ, and nothing else. Furthermore, this proteolytic ferment which is developed for a definite and specific purpose, becomes stored up in the body cells in the form of what Vaughan¹ designates zymogen or enzyme-producer, and in some instances the cells may undergo such profound changes that this zymogen may persist for a long time, possibly for years, and may even be transmitted from the sensitized mother to her offspring.

When now a foreign protein is attacked and destroyed by the specific proteolytic ferment of an animal's cells, that animal has become sensitized to that particular protein, but not to any other. If, after a sufficient lapse of time, usually twelve or more days, a second dose of the same protein be introduced into the animal's body, the specific ferment at once attacks and splits up the protein with the production of the phenomena of anaphylaxis. If the protein poison be sufficiently abundant and the proteolytic ferment be capable of liberating a sufficiently large amount of the poison, fatal anaphylactic shock takes

1. The Relation of Anaphylaxis to Immunity and Disease. *Am. Jour. Med. Sc.*, cxlv, No. 2, 1913.

place. Otherwise, the symptoms may be severe, but not fatal. Bacteria are themselves cells, and as such are able to generate a ferment which is capable of attacking and splitting up the protein of the body cells. Hence, if bacteria, on entering the blood, are capable of multiplying more rapidly, then they can be attacked and digested by the fighting or proteolytic cells of the animal's body, symptoms of disease appear. But if, on the contrary, they can be destroyed before they can multiply to a dangerous number, then immunity is produced in that animal.

What now are the reasons for concluding that bronchial asthma is a manifestation of anaphylaxis? Of these the most convincing are the observations of Auer and Lewis² in experiments on guinea-pigs. These investigators found that when these animals were sensitized to a protein, as e. g. horse serum, and then after a sufficient length of time were again injected with this protein, they at once manifested phenomena identical in all clinical features with spasmodic asthma and died with extreme respiratory distress. On post mortem examination the lungs were greatly distended and the bronchi were so stenosed that air could not be forced through the contracted tubes. Furthermore, by suitable operative procedures it was proven that this extreme dyspnea was not of central but of peripheral origin. In other words, the bronchial stenosis was due to peripheral stimulation or contraction of the circular or constrictor muscles of the air tubes. In short, anaphylactic shock in guinea-pigs is manifested by typical asthmatic seizure indistinguishable from the disease seen in man.

Additional arguments for the anaphylactic theory of bronchial asthma are found in the effects of the injection of horse serum on individuals who have suffered from asthma when in proximity to horses. Gillette has reported instances of severe and even fatal symptoms from the administration of diphtheria antitoxin to asthmatics whose paroxysms had been evoked by exposure to the emanations from horses. Indeed, Rosenau and Anderson³ warn explicitly against the danger of intense and even fatal anaphylactic shock from the administration of this remedy to persons sensitive to emanations from horses.

That such emanations are capable of producing anaphylaxis in sensitized individuals is found in the fact that such emanations contain sufficient protein to effect powerfully a previously sensitized person. This being the case, it is reasonable to conclude that the pollen of plants

may contain enough toxalbumin to produce the same sort of symptoms. All that is needed is a previous sensitization, and this may be acquired in early childhood or it may be inherited.

The explanation of the cases in which an asthmatic paroxysm follows the taking of some special article of food or a hearty meal is not quite so easy, but yet can be found in anaphylaxis if we consider the chemistry of digestion. When food is taken into the stomach its various constituents are broken up by the digestive juices. The protein is attacked and split up by the digestive enzymes with the separation and liberation of the two elements of the molecule, that is, the poisonous and non-poisonous or secondary group, as classified by Vaughan. They are absorbed as amino-acids, and after absorption are reunited to form a protein that can be utilized by the animal for the construction of its own tissues. It is quite possible that, owing to a relatively too great amount of protein in proportion to the digestive capability of the enzymes, some of the protein is absorbed. Then two things will happen, namely, the first dose of protein thus passing into the circulation will sensitize the animal to that protein, cheese or shell-fish, or what not. Then if, after a sufficiently prolonged interval, this same protein be eaten again, and again be absorbed, the phenomena of anaphylaxis will occur.

In this same manner any foreign protein that gets into the blood or lymph from whatever source in the animal body, the colon, pelvic organs, or some focus, as an infected gall-bladder or pus-tube, may be capable of inducing the symptoms of anaphylaxis in a sensitized individual.

This brings me at once to the consideration of those cases of asthma which develop years after birth and present no traceable hereditary predisposition. I refer particularly to cases with some disease of the upper air tract or the accessory nasal sinuses. Ever since Hack and others called attention to an etiologic connection between rhinological abnormalities and bronchial asthma, patients have been subjected to innumerable operations, sometimes with benefit, but more often without relief. My experience with this class of cases has not been extensive, and yet it has convinced me of the correctness of the view that nasopharyngeal and sinus disease does play a most important rôle in the causation of asthma. My observation is, therefore, in perfect accord with such reports as have been made, and quite recently by Justus Matthew⁴ from the Mayo clinic at Rochester, Minn.

2. Jour. Exper. Med., 1910, xii, 151.

3. See Bronchial Asthma as a Phenomenon of Anaphylaxis, by Meltzer, Jour. A. M. A., Sept. 17, 1910.

4. Jour. A. M. A., Sept. 21, 1912.

Out of 184 cases of asthma operated on, there were 157 instances of nasal disorders, or of infection of the accessory sinuses; and of these cases, 104 had reported themselves as more or less relieved, the degree of benefit being in proportion to the thoroughness of the operations. Inasmuch as all the 157 patients had purulent or seropurulent secretions in the sinuses or pent up in the nasal passages, Matthew is of the opinion that the asthmatic symptoms were manifestations of anaphylaxis from absorption of bacterial protein.

Of my own cases, let me cite briefly two or three. A lady physician, seen last October, had suffered from asthma in an aggravated form for a number of years. In accordance with my suggestion, she consulted a nose and throat specialist who discovered and drained an infected antrum. Relief from asthma was experienced for three months thereafter. She then had coryza with swelling of the middle turbinal and stoppage of the drainage from the sinus, and quite promptly her asthma returned.

A young woman who had suffered from asthma and hay fever since early childhood was found to have a double ethmoiditis and an infected antrum. Curettage of the ethmoid cells on one side and removal of the polypi were followed by partial relief. Circumstances prevented a more complete operation, and so Dr. E. P. Norcross decided to try the effect of mixed vaccines from a well-known pharmaceutical house. Reaction was pronounced, but improvement began at once, and now this patient says she has her asthma only in so mild a form that she experiences only a feeling of stuffiness when the air is unusually damp or foggy. It may be added that the vaccines cleared up the antrum.

Dr. George Paull Marquis has narrated to me the case of a man sent to him from out of town with a double hyperplastic ethmoiditis. His asthma had been so bad for many years as to necessitate an annual change of climate during the winter months. Radical operation on his ethmoid cells completely cured his asthma.

Dr. C. was a sufferer from asthma for a number of years and was forced to spend his winters in Florida to the great injury to his practice. Five years ago he discovered he had gall-stones and last fall was induced to submit to their removal and drainage of the gall-bladder. The result on his asthma was surprising. His operation occurred last December, and he has written lately that for the first time in years he has been able to spend the winter at home and engage in practice.

Now how can we account for the occurrence of asthma in cases like the foregoing? The explanation is easy if we accept the theory of anaphylaxis. In chronic infection of the nasal accessory sinuses all the conditions are present provided there is not free drainage. At the beginning of the infective process the absorption of the foreign protein in the form of bacteria has sensitized the individual, and thereafter when sufficient time has elapsed, each renewed absorption is shown by the phenomena of anaphylaxis and asthma.

In the course of time the symptoms of anaphylaxis become practically constant, and the sufferer is rarely free from his asthma, which torments him daily, or, as in one instance I have notes of, many times each day. With the increased severity and frequency of the paroxysms, chronic bronchitis and emphysema become established and then the asthmatic is never wholly free from dyspnea.

It seems to me that this same explanation holds with regard to Dr. C., whose asthma appears to have been greatly ameliorated, if not cured, by drainage of his gall-bladder. Sensitization to foreign protein is just as possible in chronic infection of this viscus or of a pus-tube as in any other structure, and apropos of this latter condition may be cited the following case: A woman, under the observation of my assistant, had suffered from hay fever for a number of years, but not from asthma. Some five or more years ago she got an infection of one fallopian tube, and now has a chronic pyosalpinx. But singularly enough, she states that with the infection of the tube she began to suffer from distinct paroxysms of asthma, and now her dyspnea displays the features characteristic of the second form as I have designated it.

Nevertheless, although anaphylaxis appeals to me as the cause of asthma in chronic hyperplastic ethmoiditis and other sinus infections, we yet are confronted by the query, why does anaphylaxis manifest itself as asthma in one individual and not in another? In the present state of our knowledge we cannot answer unless we assume an underlying neurosis or inherited predisposition. Doubtless, there are individual peculiarities, just the same as in animals of different species. Why does the guinea-pig show anaphylaxis in the form of bronchial stenosis and extreme dyspnea, while the dog, e. g., shows pronounced disturbance of the gastro-intestinal tract? Hay fever, according to Vaughan, is a

local anaphylaxis, but why does one hay fever sufferer have asthma in addition or develop asthma in the course of time, while another does not? As yet we cannot answer satisfactorily, and yet the theory of anaphylaxis is a long step in advance of the old and purely conjectural hypothesis. Just here some one may ask, how can you explain the relief occasioned by remedies employed for that purpose? The relief from hypodermic injection of adrenalin is due probably to the increase in blood-pressure it occasions, since anaphylaxis is said to be attended with diminution of blood-pressure. But I cannot explain the *modus operandi* of morphin and various asthma powders, unless in the same way as with whisky and ether. Desredka states that alcohol and ether prevent the phenomena of anaphylaxis for a time, and in this connection I might state that I once knew an old asthmatic who found relief from a stiff drink of whisky reinforced by the smoking of strong tobacco, two remedies in which he never indulged except during his paroxysms. A patient of mine had been suffering from extreme dyspnea and asthmatic exacerbations for four months when I first saw him. Suspecting some infection in the upper air tract he was advised to see a nose and throat specialist. This he did, with the result that a pair of old cheesy tonsils were removed. Ether was the anesthetic, and for three weeks thereafter he was entirely free from his asthma. Then he contracted what he called a "cold in the head," and promptly his asthma returned.

The practical application of the foregoing is this: In every case of asthma search for some focus of chronic infection in the nasal accessory sinuses, in a chronic hyperplastic ethmoiditis, or in some closed cavity in any other part of the body, and finding it, advise its removal by surgical interference. If the absorption of a foreign protein can be prevented in this manner, it is likely that the asthmatic seizures will be prevented or greatly ameliorated. Of course, in cases of asthma traceable to animal or vegetable emanations or to some article of food to which the person has become sensitized, we can do no more than advise avoidance of exposure to the exciting cause. Nevertheless, the understanding of the etiology of this distressing malady certainly gives us a basis for rational and effective therapeutics in many instances that otherwise might go on unrelieved.

PHLEBOSTASIS; A NEW TREATMENT FOR BROKEN-HEART COMPENSATION *

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Every medical man who is called on to treat chronic heart cases knows how thankful these patients are for new means of relieving their distressing disturbances.

So I hope that my apparatus, the "Phlebostat," which I am going to describe, will be a valuable adjunct in the treatment of weakened heart action. It consists of two hollow cuffs, as they are used with a tonometer; of a manometer and a rubber bulb. A cuff is placed around each upper arm. These cuffs are connected by a tube and into them air is pumped by means of the bulb. A pressure of 80 to 100 mm. mercury is usually sufficient. At this pressure the pulse is not entirely obliterated, only the venous flow from the arm is retarded, with the result that a peripheral congestion ensues. After one or one and one-half minutes, the air is allowed to escape, and this procedure is repeated four or five times in succession, so that the treatment takes about ten minutes. The "Phlebostat" may be applied, according to the condition of the heart, every day or every other day.

In patients suffering from cardiac dyspnea, dull feeling in the head, feeling of oppression, etc., a marked improvement is immediately felt. The patients assert that they breathe more freely, that they feel lighter, the oppressing feeling in the head disappears, etc.

These results I happened to obtain accidentally in a patient of mine, and they prompted me to experiment, at first with insufficient means, until I had constructed and perfected this apparatus, which has proved its efficacy in practice. During the past two years I have used it over five hundred times in more than one hundred cases with the usual good effects described above. The amount of relief obtained, however, varies with the nature of the heart lesion and the degree of compensation. I will now give a few typical cases from the great number which I have observed.

CASE 1.—F. K., a man aged 70 years, had had a stroke five years before, and since then had had paralysis of the left side. The face was very congested, he slept badly, frequently suffered from diarrhea and was excitable and depressed. Besides marked arterio-

* Paper read before the Chicago Medical Society, Jan. 15, 1913.

sclerosis and myocarditis, he had a feeling of intense oppression and slight dyspnea. Heart normal in size, no murmurs, the second aortic sound distinctly accentuated. The temporal and radial arteries felt rigid and were very tortuous. Pulse slightly arrhythmic, with a frequency of about 88 per minute. Blood-pressure was 160 mm. Hg.

After the third application of the phlebostat the patient felt much easier, more comfortable and could breathe better. He felt as if a great weight had been taken from him. I assumed that the relief was at any rate partly due to suggestion. But the improvement persisted. His condition never again became so serious as it was before, and he improved considerably after each phlebotasis during ten days, treatment being given every day. The patient has had no further strokes, more than six years having now elapsed. Psychically he is calmer, less excitable, less depressed and without difficulty follows his business as manager of a large factory.

CASE 2.—Patient L., aged 35 years. Mitral insufficiency. Complains of extraordinarily violent palpitation and dyspnea, particularly when climbing stairs and during a physical examination. The pulse is 140. When I observed the patient from another room by means of the cardiophone, the pulse in five minutes dropped to 120 and remained there during the subsequent observation. Immediately after phlebotasis the patient felt much better, said that he could now take a deep breath. The patient, usually very much depressed, actually became enthusiastic about the procedure. "It has done me good. This is really excellent," were his words and he came again the next day and many more times without being asked "to be blown up," as he expressed it. The pulse did not diminish in frequency, but the subjective symptoms and dyspnea were much improved. The apex beat became less violent.

CASE 3.—Patient O., aged 59 years, emphysema, cardiac dyspnea, at times slight edema, no murmurs. Rapid, somewhat irregular pulse. Probably weakened heart muscle from coronary sclerosis. First mitral sound muffled and dull. The patient complains of persistent palpitation for the past two years, attacks of dyspnea (angina pectoris) especially at night so that he must get out of bed; easily fatigued, has headaches and general nervous symptoms. A neurologic examination, especially of the reflexes, showed no organic disturbance. The phlebostat was applied three times for two minutes each time, the patient's condition improving after the second application; the palpitation which had lasted uninterruptedly for two years became less and breathing was easier. During the next few weeks the patient improved. With his improvement the relief from each triangular treatment became shorter and shorter, due to the fact that there was more general well-being and of course not so marked an effect following immediately after each treatment. The subjective restlessness in this patient was permanently improved. Nitroglycerin tablets which I prescribed for the hitherto frequent attacks of angina pectoris were not taken during this treatment. Besides the phlebotasis I ordered mild baths and expiration into rarified air.

The effect of phlebotasis was particularly noteworthy in the following case:

Mr. St., aged 66 years. Advanced myocarditis; arrhythmia; heart tones distinct, clear; liver increased

in size; ascitis; edema of both legs. For the past sixteen years the patient had derived benefit from an annual visit to Bad-Nauheim. Restricted milk-diet cure (Karell) by which the patient reduced his weight from 219 to 202 pounds was also successful. Slightly alcoholic. Subjective symptoms; dyspnea, pressure pain in epigastrium, insomnia, general weakness. During the phlebotasis, three times one and one-half minutes each, the patient experienced a feeling of relief which lasted one day. He slept much better the following night and insisted on continuation of the treatment. Phlebotasis was made every other day. The pressure pain in the epigastrium, which usually appeared after meals (especially after first breakfast) did not appear if the patient was given a treatment before a meal. The dyspnea also had increased while taking a bath so that the patient was only able to take sitting bath (Sitzbad). After the phlebotasis the full baths were taken without discomfort.

The treatment was continued for about five weeks, increasing the good effects at first produced.

Professor Treupel (Frankfort a. M.) has tested my method in his hospital on a series of patients. He has requested me to publish the following cases:

Mrs. B., aged 55 years. Arteriosclerosis. Rumbling systolic murmur over all the valves. Second sounds accentuated at the base. Heart action rapid, irregular. Blood-pressure, 140-220 mm. Hg. Subjective symptoms: palpitation, pulsation in the arteries, sense of pressure in the precordium. One minute after the phlebotasis the palpitation ceases, heart action becomes more free. Patient feels the good effects for three hours. She had treatment for fourteen days, twice daily, three times, one minute each time. The subjective symptoms decreased, the pulse dropped from 100-110 to 80-90. The patient is discharged very much improved.

Miss R., aged 36 years. Mitral insufficiency and stenosis. Myocarditis. Subjective symptoms: palpitation, sense of pressure in the chest. The patient was given phlebotasis treatment twice daily, three times, one minute each time. The subjective symptoms disappeared during the treatment and this improvement usually lasted for two or three hours. Objectively no change was demonstrable in the heart during or after the treatment.

Dr. Haeberlin of Bad Nauheim and myself obtained a brilliant result in the following case of contracted kidneys with hypertrophied heart, albuminuric retinitis and uremic symptoms:

The patient, a man aged 49 years, had contracted kidneys two years. For the past four months he suffered with severe continual headaches, insomnia, disturbances of vision to complete amblyopia and pain around the heart. Objectively, there was increase in dullness to one-half inch left of the mammillary line, heaving apex beat and accentuated second aortic sound. Blood-pressure 220 mm. Hg. Liver dullness increased by the width of two fingers. The ophthalmoscope revealed a marked albuminuric retinitis with numerous blood-extravasations. The patient could count the fingers at a distance of one-half meter.

Immediately after the second phlebotasis, which lasted two minutes, the headache decreased, palpitation and pressure sensation around the heart diminished, the patient counted the fingers at a distance of 2-3 meters. His condition became worse in a few days but by the aid of phlebotasis he again improved, at least, symptomatically. In this case the edema of the lungs was postponed for hours at a time.

In consequence of my paper (*Medizin. Klinik*, 1912, Nr. 8) they have tried my method with good results in some other German hospitals. Some of these results have been published by Dr. Dangschat,¹ Dr. Grabley¹ and Dr. Engel.²

I will not enter on details about the principles of this practically demonstrated method. The venous stasis in the periphery at any rate produces an unburdening of the heart. As is well known in all compensatory disturbances, the heart is overfilled and usually dilated.

The action of phlebostasis, as I have called this method, is almost equivalent to a venesection with the difference that there is no loss of blood, so that we are justified in calling it a bloodless phlebotomy.

If the circulation of blood to the capillary system of the four extremities, the portal circulation, or the circulation, for instance, of the central nervous system, is interrupted, the force of the heart—that is, the pressure of systole as well as the suction of diastole—is distributed over a diminished vascular area. In this lessened area the strength of the heart can naturally act with relatively greater force, the heart having a chance to work under more normal conditions while the apparatus is applied and while the amount of blood is less.

I am aware that my method of treatment will not revolutionize our present therapy of the heart, or that, objectively, we can do more by this method than with the standard chemical heart tonics, digitalis, strophanthus and their derivatives, or by physical therapeutic means.

My experience, however, leads me to assert that in cases of broken heart compensation indicated, especially in those in which formerly venesection has shown good results, phlebostasis has a rapid, immediate and beneficent influence.

THE RELIEF OF METATARSALGIA

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Morton of Philadelphia, many years ago, described a "painful affection of the foot," which we know to be due to recurring traumatism of the branches of the plantar nerve. The improper shoeing of the modern foot is doubtless the remoter cause of those pressures on the nerves as they pass between the heads of the

metatarsal bones that cause the neuritis. The disease occurs oftenest in women, they oftenest erring in using shoes of vicious types.

Diagnosis is to be carefully studied in individual cases to guard against confusion with arch and muscle affections, deep-seated bone dis-



The nerves of the sole of the foot. (After Talbot.)

ease or the common bursitides and synovitides. Without entering minutely into this topic we may mention the hyperesthesia which often occurs in the cutaneous areas supplied by the irritated nerves.

1. Internat. Congr. f. Physiotherapie, Berlin, 1913.
2. Berliner klin. Wehnschr., January, 1913, and Kongr. f. inn. Medizin, 1912.

The relief of early discovered cases of this disease may sometimes be effected by changing the poor shape and style of shoe to one of a broad, thick-soled, low-heeled type.

But the final remedy lies, in difficult cases, in the excision of the branches of the plantar nerve which are affected by the pressure.

The excision may be effected by opening over each affected branch of the nerve; but a single incision can sometimes be used for two branches.

The writer wishes in this brief paper especially to call attention to the fact that these nerves should be attacked at a point beneath the *proximal* extremities of the metatarsal bones. A single incision at this point gives an excellent opportunity to attack the nerve before its final major divisions have taken place. Furthermore, the incision at this point does not leave a scar where pressure can subsequently cause irritation and suffering.

Hyperesthesia frequently follows these operations for some months. But as a rule the discomfort disappears and comfortable function is restored.

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TOPOGRAPHY OF THE TYMPANIC CAVITY *

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The subject which is chosen for this thesis is one which most of our modern text-books touch upon in a general way. I believe it is one worthy of being brought before our readers, and I am especially convinced of its importance from personal observations on wet and dried specimens, most of which are in my possession. Photographs of some of these specimens are shown here. I ask the kind indulgence of my readers if I should tire them with detailed description, but it is necessary for a clear understanding of the subject. I believe that if the general practitioner had a better understanding of this very important organ, he would realize more thoroughly the necessity of vigilance in diseased conditions of this locality.

The development of the middle ear should be understood in order to know how the surrounding structures are sometimes invaded by diseases of this cavity; therefore, permit me to give a brief résumé of its development. The temporal bone is developed by ten centers, exclusive of

those for the internal ear and the ossicles. One for the annulus, one for the squamozygomatici, two for the styloid process, four for the petrous and two for the mastoid. Huxley declares the centers are more numerous and gives a little different classification, which I will not enter into at this time. The mastoid and petrous portions are united before birth; however, an imaginary line drawn in a vertical plane close behind the styloid foramen and at right angles to the whole petromastoid portion marks the union between these two portions. We have at birth three ununited portions of the temporal bone, the squamozygomatici, annulus and petromastoid parts, which are held together by bands of connective tissue. Ossification usually takes place between the two upper extremities of the annulus and adjacent portion of the external table of the squama, so that after a certain period the temporal bone separates into two portions, the united annulus and squamous portion and petromastoid portion. During the first year the bony union of these three parts, namely, the annulus, squama and petromastoid, are very imperfect. The annulus at birth is like a plain ring; only that the upper posterior part is wanting, leaving a gap which is filled in by the outer table of the squama. As the child develops there is an outward growth of the outer edge to form the future external auditory meatus, and an inward growth from the inner edge to help form the floor of the middle ear. The horizontal portion of the squama divides into an outer and inner table, the outer forming the external wall of the attic, while the inner helps to form a part of the roof of the middle ear. The petrous portion forms the inner and posterior walls of the middle ear.

The tympanic cavity is the largest cavity of the temporal bone in the larger percentage of cases, but anomalies may exist where an unusually large antrum or mastoid cell is present. I have in my collection a temporal bone wherein there is a cavity in the petrous portion extending from above the inner part of the internal auditory meatus, just internal to the superior and posterior surface extending to the Glaserian fossae; it measures 20 mm. long, 9 mm. wide and from 5 to 10 mm. deep. The tympanic cavity is of a cuboid shape, the walls being very unequal. It is formed by the pars petrosa, pars squamosa and pars tympanici, though the pars petrosa forms the greater part. This cavity contains air, reduplications of mucous membrane, muscles, ossicles and the ligaments of the ossicles. This cavity we describe usually as having a floor, roof, an anterior, posterior, external and

* Read before the Chicago Laryngological and Otological Society, Feb. 18, 1913.

inner walls. If we were to consider the median plane of the skull, these are not quite accurate, for the inner wall lies at an angle of about 45 degrees from the sagittal plane.

The roof is concave downward from without in and generally increases in height as it passes from the processes cochleariformis backward to become the roof of the antrum. It is formed mainly by a little lamina of bone which projects outward and forward from the superior surface of the petrous bone to join the inner table of the squama, as it turns inward; this marks a fissure, the petrosquamous, which, in children, lies over the tympanum, but in adults, is usually found a little external to this roof. It has no special anatomical features of interest, but it is of surgical and pathologic importance, since infection may pass through this area from the middle ear invading the meninges. Occasionally a dehiscence exists and the dura is in direct contact with the lining of the middle ear space. This fissure usually closes at the fifth month of life (Kopetzky). Examining 765 skulls, such defects were noted 167 times (Burkner). Korner found these dehiscences present 18 times in 209 skulls, and also found in some cases the tegmen to be several millimeters thick, and where this exists small air cells are adjacent to it. According to R. Johnson Held, the tegmen usually contains numerous foramina for the passage of small blood-vessels and at times has a cribriform appearance; he has found dehiscences twenty-nine times.

The floor is formed by a projection outward of the inferior surface of the petrous bone, which Gruber calls the fundus tympani, as it forms the greater part of the floor of the tympanum. This floor is also formed by the inward growth of the inner edge of the annulus. It narrows as the descending outer and inner walls approach each other. It lies a little below the floor of the external auditory meatus. It is pushed upward, forward and outward in some cases, while in others upward, forward and inward at its posterior part, due to the encroachment of the jugular bulb. There is sometimes a dehiscence in this area, which allows the jugular bulb to be seen from the tympanum and even gives a bluish tint to the lower part of the tympanic membrane in the living subject, as seen through a speculum. Sohler Bryant, in the *Archives*, 1905, says, in children the jugular fossae is below and not behind the tympanum. I have found both positions present. *The bulb on the right side is usually larger, consequently there is more of an elevation of the floor, and in my opinion, more*

reason for the presence of a dehiscence. But I find no literature verifying this idea. The possibility of a dehiscence existing should always be remembered when performing a paracentesis of the drum membrane. In such conditions the bulb is always liable to become infected in suppurative conditions of the middle ear. Carl Koller, in *Archives*, 1904, reports such a case. Turgens (Warsau) relates a hemorrhage from the bulb after the use of strong caustic in the middle ear. Lafarelle reports a case of a diverticulum of the tympanum from the floor, which extended downward, and was the size of the tympanum, the walls of which were very irregular. There is a small aperture in the floor close to the inner wall for the passage of Jacobson's nerve. In the macerated specimen this surface is usually very uneven, due to irregular cellular spaces.

The anterior wall can hardly be said to exist, for its place is taken up mostly by the tubal entrance and the tensor tympani muscle, the latter entering the tympanum above the tube. A small portion of the anterior wall does exist beneath the lower lip of the eustachian opening and floor of the tympanic cavity, where the fundus tympani turns up, and separates the carotid artery from the middle ear. Sometimes this bony wall is wanting, thus allowing the carotid artery to be in contact with the lining of the middle ear. There are a number of cases reported of fatal hemorrhages due to trauma of the anterior wall. Where a dehiscence is caused by an erosion, it is usually found at the vertical and horizontal part of the canal. Politzer attributes this to inflammatory softening due to pus which surrounds the artery, and which causes a diminished resistance; the repeated concussions of the blood-wave finally results in a perforation of the anterior wall. Another important anatomical feature of this anterior wall is around the lower lip of the tubal entrance, and consists of small cellular spaces known as Koerner cells, which become infected, and in some cases produce constant obstinate otorrhea. The failure in thoroughly eradicating these cells at the time of a radical mastoid operation is often the cause of constant trouble; therefore, we should bear this in mind. Urbantschitsch, in the third edition of his text-book, speaks of finding in certain temporal bones, cellular spaces in the vicinity of the tympanic orifice of the eustachian tube, which led to a system of pneumatic cells, and which in turn spread to the tip of the petrosal pyramid. and through dehiscences communicated with the

middle fossa of the skull. I have one such specimen in my collection.

The posterior wall is absent in its upper part, due to a variable-sized opening of a somewhat triangular shape, with its apex pointing downward. Its base is about 5 mm. wide, and from the base to the apex measures about 6 mm. The apex of this triangular opening lies just internal and above the upper end of the posterior arm of the annulus, and is called by some authors (Davis and MacEwen) the iter or aditus, which leads into the mastoid antrum. Most of the literature I have consulted speaks of a small recess just below the floor of this so-called accessory opening of the tympanum, the sella incudis, for the reception of the short process of the incus. *This statement from my observation is incorrect, as the short process rests on the floor of the iter or aditus, close to the posterior wall, but not in the posterior wall.* Close to the inner wall and below this opening is a small projection, the pyramid, with a tiny opening at its apex from which issues the tendon of the stapedius muscle, which arises from a cavity in its interior. From the inner and lower side of the pyramid, I have found in most specimens a delicate thread-like bridge of bone extending to the upper edge of the beginning of the promontory. Below, at a point where the floor and posterior walls seem to meet, is a dense hard projection, which is the tympanic end of the styloid process. *I have found in some cases, around this projection, numerous cellular spaces, which are important to remember in radical mastoid surgery.* Through this wall passes the facial nerve, which enters just above and at the posterior end of the oval window and runs in a somewhat diagonal direction, downward and outward, leaving this wall of the tympanic cavity just behind the middle of the posterior arm of the annulus. Alex Randall, in the *Archives* of 1903, reports his findings in one hundred cases, where the facial nerve lay less than 2 mm., nor more than 4 mm., from the back wall of the meatus, and crossed the oblique plane of the drum 3 mm. back of the middle of the posterior margin of the annulus. Hugh E. Jones, in the *Journal of Laryngology, Rhinology and Otology*, of June, 1903, and H. A. Alderton, in the *Archives* of 1904, give very important data regarding the location of this nerve. *To avoid injuring this structure, one should not go below the floor of the antrum where it joins the posterior arm of the annulus.*

The external wall is formed by bone and membrane, the upper part by the external table of the squama, which contains cellular spaces in the

adult, and lies over the superior meatal wall; the lower part by the drum membrane and annulus tympanicus. The lower edge of the external table of the squama for about 4 mm. is not joined by the annulus. This area, which is in the upper and posterior part of the drum and lies just anterior and slightly below the opening into the mastoid antrum, is where the periosteal covering of the upper part of the meatus passes into the inner surface of the external table of the squama, thus forming the periosteal covering of the outer wall of the antrum and attic and allowing subperiosteal infections to travel into the external meatus from the attic and antrum at this point. Swelling here indicates attic and antrum inflammation. The annulus in most subjects is horse-shoe shape, but cases are reported where the osseous circle is complete. Hyetl has reported a case wherein two tympanic rings existed. The annulus only forms a small part of the external wall; on its concave side there is a sulcus, the sulcus tympanicus, for the insertion of the membrana propria. At the upper and posterior part where the annulus is missing, the sulcus is also missing, and this area is known as the notch of Rivini. The annulus is placed obliquely, inclining toward the anterior wall and floor of the meatus, forming with the superior and posterior walls an angle of about 145°, while with the floor and anterior wall it forms an angle of about 35°. The annulus has a somewhat spiral shape, and its anterior extremity makes a slight twist on its long axis, so that the sulcus of the annulus is seen from the meatus in dried specimens when held in its normal position. At the upper end of this anterior arm is a small tubercle, the crista tympanici, and above this a little groove, the sulcus malleolaris, which lodges the processus longus of the malleus. The development of the annulus along the anterior part of the lower margin of the squama forms the Glaserian fissure, which is of special interest to the otologist, *as it sometimes serves as a passage by which infection may spread from the tympanic cavity into the region of the parotid gland, or may even affect the inferior maxillary joint.* This fissure is formed by the crista tympanici of the annulus, and the tegmen tympani, which advances to meet it; these structures draw nearer to the lower anterior margin of the squama and practically close this area; however, in the young before this closure has taken place, and in those cases where development does not progress normally, it leaves a relatively large opening. Infection of the middle ear may travel through this opening and be the primary cause of some supposed

parotid gland or pharyngeal abscess, and should be remembered.

The drum membrane is an irregular oval membrane measuring about 9 by 10 mm. It is placed in the same plane as is the annulus. The drum is concave outward at the umbo or tip of the malleus, and between that and the annulus it is convex outward, excepting in its posterior quadrant, where it is somewhat flattened. The membrane is transparent and about 0.1 mm. in thickness. It separates the external auditory meatus from the middle ear. It consists of three separate layers, an outer cuticular, a central or membrana propria and an inner or mucous layer. Zalewski, through experiments, found that pressure of from one to two atmospheres was necessary to cause rupture of the normal drum, while in atrophic or cicatrices of the drum, infectious processes, or advanced age lessened pressure was required. In fibrous or calcareous thickening increased pressure was necessary. Gruber contends that the drum will stand a gradual increasing pressure of from 60 to 70 pounds.

There seems to be a diversity of opinions as to the position of the drum membrane. Most authors are inclined to believe the drum membrane lies more horizontal in the child than in the adult, while J. Pollak and Symington have agreed that the drum lies in the same place in the adult as in the child. From my observation I must agree with the latter. *I believe that because of the high position of the auricle the cartilaginous floor of the meatus lies almost parallel with the outer surface of the drum in children; while in the adult, because of the development of the ossaceous meatus we look at the drum in a more horizontal direction. It would seem to me, if the annulus changed its position it would have some effect on the size of the tympanic cavity, but this cavity is about the same in size, in the young and old. I have removed the bony external auditory meatus in the adult to the drum membrane, and from all appearances it seems to be in the same plane as in a child. I have also made an artificial bony external meatus by casts and placed this against the infant annulus as it would appear later in the adult, and the drum seemed to take on the same plane as the adult membrane.* The membrana tympani is composed of a tense and a flaccid part. The former is tense because of the membrana propria, which is made up of the circular and radiating fibers, while the latter, or Shrapnell's membrane, is flaccid because devoid of these fibers. The long process of the malleus, of which

we will speak later, is readily seen through the drum membrane and at the upper part of this handle is a round projection, the short process of the malleus. From the short process of the malleus passing upward in opposite directions to the upper end of the annulus is the edge of the membrana tensa, which is thickened and known as Prussak's fibers, called by most authors the anterior and posterior folds, while Beysold and Siebenman call them the anterior and posterior liminal strands. The area between these two bands is known as Shrapnell's membrane. It is of the greatest importance to remember the position of the drum membrane when removing foreign bodies from the meatus or performing a paracentesis. Perforations in the various parts of the drum are also of the utmost importance and may be divided into the dangerous and non-dangerous variety. When the membrane seems to be entirely destroyed in a marginal perforation at its junction with the annulus; or where there is a perforation in Shrapnell's membrane; or in the posterior superior quadrant, view it with suspicion, and call it the dangerous type; while a perforation which exists where a membrane, be it ever so small in amount, separates it from the annulus, may be classified as belonging to the non-dangerous variety. *I am thoroughly convinced, that in diseased conditions of the antrum, perforations at the posterior superior part of the drum and in Shrapnell's membrane are due to secretions drawing from the antrum directly on the drum at this point, thus causing destruction in this area. The short arm of the incus forms with the outer table of the squama a trough, so to speak, which retains secretions and aids infections of Prussak's space.*

The inner wall looks forward and outward, and is the most important of the various walls of the middle ear. It forms also the outer wall of the internal ear. From the tegmen tympani downward we observe, *first*, a smooth bony projection in the upper posterior part called the horizontal semi-circular canal, which lies in a horizontal plane and passes back through the iter into the antrum; *second*, below this elevation and lying in the same plane, but extending a little more anteriorly and not so far posteriorly is another bony elevation, which marks the position of the canalis fallopii, through which passes the facial nerve. There is sometimes a dehiscence in this ridge, and mucous membrane only separates it from the tympanum. This is a very important surgical landmark, and its position should be thoroughly familiar to surgeons doing middle

ear and mastoid operations. In infection of the middle ear, where a dehiscence exists we are liable to meet with facial nerve complications, due to an exudate into the surrounding structures causing pressure. Infection may travel along the sheath of the nerve to the cranial cavity. *Third*, directly anterior and a little below where the facial canal makes its appearance on the inner wall is seen the processus cochlearis, through which passes the tendon of the tensor tympani muscle. *Fourth*, below the canalis fallopii, near the posterior wall is a recess, at the bottom of which is an oval opening, the fenestra ovalis, the long axis of which is directed upward and forward, measuring three mm. long and one and one-half mm. wide. In this oval opening rests the foot-plate of the stapes, which will be discussed later. This ossicle separates the vestibule of the labyrinth from the tympanic cavity. It is through this fenestra most of the sound waves travel. *Fifth*, below this oval opening, helping to form its lower border and extending forward is an elevation known as the promontory, which represents the first or beginning turn of the cochlea, and forms the greater part of the inner wall of the tympanic cavity. If we trace this prominence backward we find it ends abruptly in a deep recess, the recessus rotundum. Opening forward from this recess in the macerated bone is a round aperture, the foramen rotundum, which leads into the beginning of the cochlea. In the recent state this opening is closed by the membrana secundarea, which regulates the fluid waves that have passed through the cochlea. Opinions differ as to whether sounds travel through the fenestra rotunda from the middle ear. According to Gruber, this round window lies nearly parallel to the drum membrane in the fetus at the third or fourth month, while at birth it lies obliquely to the membrane, and as the child advances in years this opening gradually changes until it looks toward the posterior wall. Troltsch is of the opinion that the infantile position of the round fenestra may, under certain conditions, persist. This round opening varies from 1.6 to 3 mm. in height, and its width from 1 to 3 mm. The membrane which closes this round opening is somewhat convex toward the interior of the cochlea. It is covered on the cochlea side by the labyrinthine lining and on the tympanic side by the mucosa of the lining of the middle ear.

The tympanic cavity measures through its horizontal plane 10 to 13 mm.; its vertical plane from 8 to 15 mm. The roof increases in height from the anterior part of the cavity to the pos-

terior, where it continues on as the covering of the antrum. The width of this cavity varies; at the umbo and promontory it is about 2 mm., and from that the width varies up to 7 mm. The quantity of fluid which this cavity will hold is about ten minims in the recent specimen, and in the dried about twelve minims.

This cavity is divided into three chambers by imaginary lines, the upper or attic, the middle or atrium, and the lower or hypotympanic spaces.

The attic is that portion lying above an imaginary line drawn from the prominence of the horizontal portion of the facial ridge to the short process of the malleus. Some authors draw the line to the lower edge of the external table of the squama or upper edge of Shrapnell's membrane. Kretschman and Siebenman contend the former should be adhered to, and base their opinion on a clinical fact; that it is a common observation to find the membrana flaccida involved when the pathologic process is limited to the attic. *The attic lies almost directly above the posterior quadrant of the drum membrane (when the head is held in its horizontal plane) and lower ledge of the outer table of the squama. If a perpendicular line were drawn from the inner wall of the attic downward, it would pass through the drum membrane just above the end of the malleus handle and strike the floor of the external meatus about 3 mm., external to the lowest edge of the drum. If drawn in like manner from the extreme outer part of the outer wall it would strike the floor of the meatus about 7 mm. from the lowest edge of the drum.* To this space Bezold, Troltsch and Siebenman have given the name aditus ad antrum; Schwalbe, cavum epitympanicum; Liedy, attic, and Hartman, the cupola. In this so-called chamber rest the heads of the malleus and incus and their ligaments. The book of "Surgical Anatomy," by Davis, and the book by MacEwen, speak of the attic containing the above structures, but continue to say the short process of the incus projects into a space called the iter or aditus, and that through this space the attic communicates with the mastoid antrum. They describe the space as being a quarter of an inch long from the posterior extremity of the attic to the antrum, and it is covered by the tegmen, the inner and lower wall by hard bone for the seventh nerve and external semi-circular canal. This chamber is of the greatest importance because of the many structures it contains and because of its close association with the cranial cavity and mastoid antrum. Because of the number of structures, and reduplication of mucous membrane, infection of this

region is arduous to master on account of the difficulty in establishing drainage. The incus aids us in many cases; because of its position it acts as a natural drain from this region. The attic is again divided into an internal and an external chamber. The area lying between the malleo-incudal articulation and the external table of the squama and Shrapnell's membrane is called the external attic. That part internal to these structures the internal attic. This external attic is again subdivided into an upper and lower space. The lower one is known as Prussak's and is bounded internally by the neck of the malleus, inferiorly by the processus brevis, externally by Shrapnell's membrane and superiorly by the external ligament of the malleus. This space measures about $1\frac{1}{2}$ mm. high and 2 mm. at its base. According to Politzer, this space opens occasionally into the anterior and posterior pouch of Troltsch. From my observations of work in the attic region, I have come to the conclusion that the number of trabeculae in the attic varies in many cases, and I think it due to the process of development.

The atrium is that part of the tympanum lying opposite to the drum, below the imaginary floor of the attic and above a plane on a level with the floor of the external auditory meatus. In this chamber are found the handle of the malleus and the long process of the incus, stapes, oval, round window and opening into the eustachian tube.

The hypotympanic space lies below the lowest edge of the drum membrane or below the floor of the external auditory meatus, and contains a variable number of cellular spaces.

The ossicles of the middle ear are three, malleus, incus and stapes.

The malleus is club shape, measures about 9 mm. in length, and weighs about 22 mg. It is made up of a head, neck and handle. The head and neck form with the handle an angle of about 150° . The head is irregularly globular in shape, and its upper part lies about 1 mm. from the tegmen. It has a free convex surface, and on its inner and posterior surface has an oval depression for articulation with the incus. The neck is a fraction over 1 mm. long, and extending forward from its anterior surface is a delicate spicula of bone, the processus gracilis, the remains of Meckel's cartilage. Extending in an obtuse angle from the neck downward and inward is the handle, which is prismatic on cross section, and tapers gradually from just below the neck to the tip, which is turned slightly forward and somewhat flattened. The handle meas-

ures 5 mm. from short process. At the upper end of the handle is a somewhat rounded point, projecting against the drum, and called the short process. On examining the handle while connected with the drum, the inner two-thirds of its circumference seems to be free toward the tympanicum, excepting for the mucous membrane covering, while the outer one-third seems imbedded in the membrane. The membrane can be easily separated from the malleus with the exception of its lower end where it is firmly attached. Gruber contends that a cartilaginous structure surrounds the malleus where it is imbedded in the drum, and the bony part rests in this cartilaginous bed. This ossicle, especially the head and short process, is practically always preserved in suppurative conditions, because of its rich blood-supply, which will be spoken of later. A case of congenital gap in the handle of the malleus has been reported by A. H. Cheatle. The ligaments which hold this ossicle in place are: The suspensory, a short bundle of fibers attached to the upper surface of the head and tegmen tympani; it checks the outward movements of the handle. The external is a fan-shaped structure attached to the neck of the malleus and diverging as it passes outward to become attached to the lower edge of the outer wall of the squama at the Rivinian notch. This ligament forms the roof of Prussak's space. There is a small bundle of fibers at the posterior part of this ligament, which is separated from the main bundle, and called by some authors the posterior ligament of the malleus. The anterior ligament leaves the neck of the malleus around the processus gracilis, encircling this process and passing to the Glaserian fissure and anterior spine of the tympanic ring. The capsular ligament surrounds the malleo-incudal articulation, and holds these surfaces together. Because of the number of ligaments which are attached to this ossicle, it makes it firm and secures it in one place, therefore making it a valuable landmark.

The incus, called so because of its shape, has a body, a long and short process. On the anterior surface of the body is a saddle-shaped depression for the articulation of the head of the malleus. The two surfaces of the malleus and incus are so arranged that when the drum membrane is pushed inward by a sound wave, a small ridge on the malleus fits into a depression on the incus, thereby bringing pressure on the stirrup, while if the drum is pushed outward by inflating, etc., these two surfaces separate and the malleus moves outward without pulling the incus with it, thus preventing the dislocation of the stirrup

from the oval window during inflation, etc. The short process measures 3 mm., and in some cases a fraction over; the long process, from the lower edge of the articular surface to the tip, about $4\frac{1}{2}$ mm. This ossicle weighs about 24 mg. The short process is directed backward and is lodged in the sella incudis of the posterior tympanic wall, just below the opening into the antrum mastoidea. The long process, downward and inward, parallel and posterior to the malleus handle. At its lower end it turns at a right angle inward to join the head of the stapes. This right angle projection is known as the processus lenticularis or orbicularis. In the fetus this is a separate bone (Quain). In inflammatory conditions of the tympanum the incus is the first of the ossicles to be thrown off and destroyed because of its limited blood-supply, and because of the position of the artery which supplies it, which is so readily pressed on by the swelling of the tissues in that area. The ligaments which secure this ossicle in position are the capsular, already spoken of, and the ligament of the incus, which surrounds the short process, passes back and is fastened to the area of the floor of the iter, where the short process is lodged. There is a small ligament which holds the osorbicularis and head of the stirrup together.

The stapes consists of a head, two crura and a foot-plate. The head is directed outward and articulates with the processus lenticularis of the incus. It is disputed as to whether this is a synovial joint, but Rudinger describes it as such. There is a short neck which divides into two crura, the anterior and posterior, which are united to a flat oval plate, the foot-plate. The foot-plate occupies the greater part of the fenestra ovalis, but is in no place in actual contact with the bone, there being a layer of cartilage all around the foot-plate, and another around the edge of the oval window. Between these two layers of cartilage is a ligament. The length of the foot-plate is a fraction over 3 mm., its width $1\frac{1}{2}$ mm. The anterior crus measures about 2 mm., its posterior crus 3 mm. This ossicle weighs about 2 mg. The ligaments are the annular which holds the foot-plate in the oval window, and one which unites the head with the incus.

The muscles of tympanum are two, the tensor tympani and the stapedius. The tensor tympani arises from the cartilaginous portion of the eustachian tube, small area of the great wing of the sphenoid around the tube, and from the

walls of the bony canal which lodges the muscle. It is a little over half an inch long. Near the opening of this tube the muscle becomes tendinous, passes through the processus cochleariformis at right angles to its belly, passes outward across the tympanum to be inserted into the inner surface of the manubrium of the malleus, where it joins the neck. Gruber says the tendon is attached to the inner margin and anterior surface of the malleus.

The stapedius muscle arises from a canal in the posterior wall of the tympanum, lying parallel with the Fallopian canal, but a little anterior and internal to it. It emerges through a small opening, the pyramid, to be inserted into the head of the stapes. Rudinger says it is inserted into the lower extremity of the descending process of the incus. In most of the cases which I examined, the muscle seemed to vary in its insertion; sometimes it would be attached to the posterior crus, again to the head and posterior crus, then again some of the fibers seemed to extend from the head to the osorbicularis, but most often to the neck.

Various theories are advanced regarding the function of these muscles, but they are beyond the scope of this paper.

The arterial supply to the tympanum is the tympanic branch of the internal maxillary, which enters this cavity by way of the Glaserian fissure; it supplies the anterior part of the cavity and its branches anastomose along the periphery of the drum membrane with the stylomastoid branch of the posterior auricular. This tympanic branch sends branches into the external auditory meatus and is called the deep auricular.

The tympanic branch of the internal carotid passes through the anterior wall of the tympanum into the middle ear. The stylomastoid branch of the posterior auricular passes up the Fallopian canal with the facial nerve, sends branches through the posterior tympanic wall to the tympanum and drum membrane.

The petrosal branch of the middle meningeal, which anastomoses with the stylomastoid in the Fallopian canal, sends branches into the tympanum. Zuckerkandl mentions a small branch of the stylomastoid artery, which he found constantly passing out from the middle part of the Fallopian canal to supply the stapes and membrana obturatoria, then to the promontory to anastomose with the above branches, which he calls arteria stapedia.

The tympanic branch of the ascending pharyngeal, Gray says, ascends through the Eusta-

chian tube, while Deaver speaks of its entrance through the tympanic canaliculus with Jacobson's nerves. All these branches which supply the tympanum anastomose freely; however, Prussak states that the arteries of the tympanic cavity have an extensive course without anastomosing with one another; he says they divide at acute angles into branches, the caliber of which are large in comparison to the parent trunk, these branches passing almost at once into small veins; capillaries in many parts being absent.

Because of the free passage of the arterial supply through the periosteum to the subjacent bone, inflammatory processes of this cavity have a great tendency to involvement of the osseous wall.

There is considerable controversy as to whether the arteries of the middle ear anastomose with the arteries of the labyrinth. Politzer describes such branches existing. Shambaugh, who has studied this phase of the subject very thoroughly, has found that there is an anastomosis existing between these two chambers (*Archives of Otolaryngology*, 1906).

The venous blood of the tympanum is carried off by the temporomaxillary vein, superior petrosal sinus, lateral sinus, internal jugular and pharyngeal veins.

Numerous small vessels communicate with the dura through the tegmen tympani. Inflammatory processes may travel by these veins to the various areas through which the veins travel, and are, therefore, of pathologic importance.

The lymphatic distribution of the tympanum is not well known, but according to Rauber, they accompany the blood-vessels. There is a close connection with the prevertebral glands, which should be remembered in a retropharyngeal abscess, during middle ear suppuration.

The nerves of the tympanum are derived from several sources. The relation of the seventh nerve to the tympanum has already been considered. The nerve supply of the middle ear is derived from branches of the fifth, seventh and ninth cranial nerves, which form a plexus on the promontory known as the tympanic plexus. The branches which form this plexus are Jacobson's nerve from the ninth, which passes through the canaliculus of the floor of the tympanum just below the promontory; the small deep petrosal from the carotid plexus of the sympathetic which enters through the anterior wall; the small superficial petrosal branch of the seventh which enters the tympanum beneath the tensor

tympani canal; the great superficial petrosal, another branch of the seventh which enters the tympanum just anterior to the oval window.

The chorda tympani nerve passes through the tympanic cavity, entering at the upper posterior arm of the annulus through a small opening, the iter chorda posterior, passes forward between the long process of the incus and neck of the malleus, just above the junction of the tensor tympani muscle with the malleus and passes out of the cavity through a small opening at the upper anterior arm of the annulus, the iter chorda anterior. The position of this nerve in the tympanum causes two pockets to be formed, one anterior and the other posterior to the malleus, and known as the anterior and posterior pouches of v. Troltsch. The mucous membrane passes down from the roof of the tympanum, covers over the chorda tympani nerve, then passes up again to be reflected onto the drum membrane, therefore, these pouches open downward and lie between this fold of mucous membrane which covers the chorda tympani and the drum membrane. The posterior pouch is the larger of the two. Troltsch considers these folds of mucous membrane as true duplicatures of the membrana tympani, and has found fibers in them similar to those in the drum. Gruber, after the most careful study, has never been able to demonstrate the fibers of the membrana propria; therefore, he considers them folds of mucous membrane. Rudinger regards them as forming bands of attachment for the upper part of the malleus.

Politzer says there are openings in some cases into these pockets from Prussak's space. I have followed his method of experimenting by putting quicksilver into the pouches and opening Prussak's space in eight cases, but the quicksilver did not leave the sacks. I also examined these pouches under high magnifying power, but could see no such openings.

The nerve supply of the drum membrane has been carefully studied by J. Gordon Wilson, who says, the drum of man is chiefly supplied by nerves which enter from the external auditory meatus. They pass in as one large trunk at the upper posterior part of the auditory canal. Numerous smaller branches enter from the periphery. There are but few nerves entering this structure from the tympanum. These branches are derived from the auricular temporalis and vagus.

I am greatly indebted to Dr. Jos. Beck for many suggestions which were of value to me in the presentation of this subject.

ECONOMIC CONDITION OF THE PROFESSION

CHARLES J. WHALEN, M.D.
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Address of Dr. Whalen on assuming the office of President of the Illinois State Medical Society, at Peoria, May 21, 1913.

In assuming the office of President of this organization it is customary to make a few appropriate remarks which are of some moment to its members.

It strikes me that one of the most important questions confronting our profession at the present time is that of the economic conditions of the individual members. Economics under present-day conditions is quite as much a medical as a sociological problem. It is not a local problem either but is a burning question the world over and is one that demands solution and unless this is arrived at it means disaster to the individual physician.

You are cognizant of the fact that the struggle for existence at the present time is greater than at any time in the world's history. The physical conditions of the country are not at fault but our demands have increased through our intellectual development out of all proportions to our physical ability to satisfy them.

Are you giving this question due consideration? Remember that we cannot improve our condition as trade unions improve theirs, that is by increasing their own incomes at the expense of others. If we wish to improve our own status we must put our shoulders to the wheel and give a helping hand to the general movement which has for its aim the physical uplift of the medical profession.

In this respect are you doing your share of the work, or are you waiting for the other fellow to do it for you and then expect to share the benefits with him? Unfortunately, there are shirkers in every walk of life. Oh! well, what's the use; the other fellow is willing to take up my task, let him bear the burden; I will reap the reward. Brethren, that's a selfish view of life. Yet, some become imbued with that spirit through thoughtlessness, never stopping to consider the duty they owe in conducting our mutual affairs. Your interest in this matter is as great as mine, and mine is as great as yours. It, therefore, follows that we each should be willing to do our full part for the common good. On this economic basis rests the immediate future well-being of the medical profession.

There are two things in the Christian religion that differ from all others; one is its extreme simplicity, the other its universal applicability. The "Golden Rule" is an epitome of the "Sermon on the Mount." It is also the master rule of ethics in our treatment of our fellow men. To say that it is impossible in practice, is absurd.

Every good citizen makes it a rule of his life and just in so far as he fails to live it, he fails to realize his own ideal. If we, who claim to be fair minded and just, are in doubt as to what we should do to our neighbors; put ourselves in his place and whatever we could expect of a just man under the same circumstances that is our plain duty toward him.

Let us be broad minded enough to look at all sides of men's character, then we will not be apt to condemn many. Smith, you say, is a fraud and you can prove it; don't forget that in all probability Smith is saying the same of you and he is just as likely to be right as you are. Get together with him and talk over your differences and perhaps you will find that you were both wrong.

The many problems confronting us are only overcome by cooperation; out of which comes organization to achieve the common goal. The needs and advantage of such cooperation in our profession are obvious. Mutual support must be our slogan if we are to exist in perpetuity.

The doctor who tries to go it alone in the practice of medicine in this day is making a great mistake. The field is so large and the interests involved so many and varied, that no one man can keep in touch with them all without constant help from his fellows; on all sides he is surrounded with difficult problems and many if not all of them can only be solved by cooperation.

The legitimate practice of medicine has fallen on perilous times. This is evidenced by the writings of eminent men and by the unrest and agitation of the medical profession the world over, due in part to the fact that sanitation and preventive medicine are reducing disease to a negligible quantity; to some extent to the fact that new "cults" and "pathies" have cut into the legitimate sphere of the practitioner; but most of all to the encroachment on the work of the physician by unworthily bestowed charity, by our hospitals and dispensaries, to people able to pay. These factors with others all operate to reduce a physician's income.

Added to all these we have the specter of a new ghost in the trend of the times toward communistic medicine. It is my belief that the prac-

tice of medicine, surgery and allied specialties in the not far distant future will become government, state and municipal functions; a fine outlook for the doctor, is it not?

This is well illustrated by the condition of affairs in England where the doctors had to organize finally in sheer defense of their own means of existence. However, in England, establishing methods of defense was deferred too long, and so, in spite of the belated protests of the profession, there was foisted on it the obnoxious national insurance act.

Shall we in America procrastinate in this matter the same as was done in England, or shall we take steps now to overcome the evils confronting us? By our silence we are renegade to our own interests.

I am pleased to note that there is some evidence that the profession is beginning to realize as never before the benefits of organization, not only to individual members but also to the

individual in his complex relations. There is considerable evidence that the profession is becoming aroused to the necessity of organizing for something more than purely scientific purposes.

Cooperation in medical practice is a necessity in the present day. All professional men should be thoroughly acquainted with their rights, privileges and power for safeguarding their own vital interests as well as the interests of the community.

An organized medical profession in Illinois with its ten thousand members could accomplish much in the way of needed reform and would be able to do much to prevent further encroachments of the evils now threatening to engulf us.

The watchword of the new administration will be alertness along the lines of organization and cooperation: justice for all practitioners; a helping hand to the general movement which has for its aim the physical and moral uplift of medicine in the State of Illinois.

(All from Bulletin of Chicago Department of Health)

All the time is clean-up time. Keep a scrubbin'.

Dirt accumulates rapidly and must be fought steadily—if you wish to be clean.

A once-a-year clean-up is on a par with a once-a-year bath.

An habitually dirty citizen is dirty from choice, not from necessity. A will to be clean will find a way.

Cleanliness is a civic, social and health requirement. It is tremendously important—it is imperative.

You can be clean—you MUST be clean.

Pay heed, or you will pay dearly for your heedlessness.

What the American cities are doing and can do toward preventing infant mortality and the high death-rate of children under 5 years of age is the subject of a bulletin now in press by the Children's Bureau. It is the purpose of the bureau to issue a similar bulletin annually and in time to make it a complete manual for municipal and philanthropic activities in the direction of child welfare. Summer campaigns for babies' lives have been waged with such marvelously good effect in some cities, that it seems to the bureau important to enlist the energies of as many cities in this work as possible. To this end it will be helpful to collect and present for the information of all, the little or much that is being done by the various cities.

The efforts of city health officials have resulted in the last ten years in reducing the general death-rate in cities below that of rural districts and villages. This reduction in the general death-rate is an encouraging indication of what is possible of accomplishment in efforts to reduce the infant death-rate. Babies die of diseases which to a large extent are preventable, and thus when welfare work is directed toward saving their lives, the response is immediate and decided. In

certain large cities the result of systematic summer baby-saving campaigns has been shown in a reduction of between 30 and 40 per cent. in the deaths of children under 2 years of age, in the city wards where such work was concentrated. Practically the only limit of the good results to be obtained by well-directed campaigns lies in the financial side of the question. The investigations of the Children's Bureau indicate that the principal impediment to effective work in the health departments of most cities is the lack of adequate funds for carrying on preventive measures intelligently, and experience verifies the truth of the statement: "Public health is purchasable; within natural limitations a community can determine its own death-rate."

One of the employees of this department living in a choice residence neighborhood on the north side was notified last week that the city scavenger refused to empty the large can for refuse. On investigation it was found that the housekeeper had filled the can with mixed refuse and *garbage*. The contents of the can which had accumulated about two weeks was swarming with maggots and in a very offensive condition. A few flies were in evidence, either hatched out in the can or drawn to the place by the odor. The nuisance was promptly abated by separating the garbage and placing it in covered pails (an unsavory task) and sprinkling it with formaldehyd solution.

In this case the householder, well informed as to the proper disposal of garbage and other waste and with the best intentions, was imposed on by a new housekeeper who came well recommended. As she had been employed in the neighborhood, she was given credit for knowing the rules.

Do you personally see that your garbage and refuse are separated and the garbage kept in tightly covered "fly proof" pails and treated with a disinfectant, or do you let "George" or "Mary" do it?

ILLINOIS STATE MEDICAL SOCIETY

OFFICIAL MINUTES OF THE SIXTY-THIRD ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, HELD AT PEORIA, MAY 20, 21 AND 22, 1913

MAY 20, 1913—FIRST GENERAL MEETING

The Society met in the Gold Room of the Jefferson Hotel, and was called to order at 2:50 p. m. by the President, Dr. L. H. A. Nickerson of Quincy.

Dr. J. H. Bacon, chairman of the Committee on Arrangements, stated that surgical clinics of the section on Eye, Ear, Nose and Throat would be given at the St. Francis Hospital at 2 p. m. Tuesday.

Immediately following this, the conference of County Secretaries would be held.

In the evening, at 8 o'clock, the House of Delegates would meet in the Gold Room of the Jefferson Hotel. The first and second sections would hold their meetings in the Shrine Temple.

Wednesday, at 12:15, the ladies would meet in front of the Jefferson Hotel Building, where a special car would be in readiness to take them to the Country Club for luncheon, and they would be entertained until 4 o'clock, when automobiles would take them around the city for a drive.

Wednesday evening the Society and its guests would take a boat ride, ample provisions having been made for 1,200 passengers.

Lastly, every effort would be made to take care of the members and guests in the best possible manner.

Adjourned.

SECOND GENERAL MEETING

The Society was called to order in general session, May 21, 1913, at 2:30 p. m., by the First Vice-President, Dr. Samuel E. Munson, of Springfield.

President L. H. A. Nickerson of Quincy was introduced and delivered an address entitled "Lifting the Mantle of Reserve."

Dr. Joseph Collins of New York City followed with the oration in medicine. He selected for his subject, "Syphilis of the Nervous System."

At the conclusion of Dr. Collins' address, Dr. J. H. Stealy of Freeport, on behalf of the Illinois State Medical Society, presented Dr. Harold

N. Moyer of Chicago a beautiful silver set in appreciation of his efficient services as chairman of the Medicolegal Committee, prefacing the presentation with the following remarks:

Mr. President, Ladies and Gentlemen: It gives me great pleasure to offer to one of our members a token of gratitude in the way of recognition for the services he has rendered to this Society in the defense department. Dr. Moyer, you have been an unselfish worker in the Illinois State Medical Society for many years. Your interest for the welfare of the Society has many times been paramount to your own. You have volunteered your services whenever demanded, many times at great sacrifice to yourself. You have never failed to respond to any call we have given at any time to help any of our brothers. Through this unselfishness you have endeared yourself to the hearts of the members of the Illinois State Medical Society. I ask you, Dr. Moyer, to accept this token of respect in behalf of the Illinois State Medical Society, which I now present to you. (Applause.)

Dr. Moyer, in accepting gift, said:

Mr. President, Dr. Stealy, Ladies and Gentlemen: Of course, this is a great surprise (Laughter), or would have been so if your committee had been more discreet. I have noticed symptoms on the part of the committee that were unmistakeable; conferences with Mrs. Moyer, carried on in a way to excite in the minds of any husband serious misgivings; meetings with my better half in odd corners, and when I approached, an abrupt change in the conversation, and a confused look. There was no other conclusion than that something would happen. (Laughter.) I did not know just what it was, consequently I feel in a measure relieved by what has occurred.

I do not know what I ought to say to you. Perhaps I ought to sit down and shed a few tears and say nothing, but I am prompted to say a few words on this occasion, as I shall probably never have another. All men in the state medical society who attract attention have trouble. (Laughter.) They specialize in some variety of trouble. Perhaps it would be invidious

at this time to mention names. You are familiar with certain brands of trouble in which many of our leaders specialize, and scarcely a year goes by but someone attempts to put a foundation under the trouble which he expects to carry on for a while. (Laughter.) Some of these troubles never amount to much, but there is nothing so good for a member of this society as to have a real trouble that lasts a long time. When I was made your president many years ago, and altogether too young to be shelved, I began looking around for a trouble that I liked, and this medicolegal business was one well calculated to keep a man out of mischief. One of our members was threatened with a malpractice suit and a threat was hanging over his head for a year. He was much perturbed over this thing, and finally the ax fell. He came into my office with the news that the papers had been filed. I said cheerfully, "Do not feel badly about this, I just love malpractice suits; I am glad they began." "Yes," he said, "if it was your malpractice suit, I would love it too." (Laughter.)

I do not know what motives prompted you to make this beautiful gift. Compensation, perhaps. It is substantial; it might be argued, that it would be fair compensation. It looks sterling, and yet I cannot think it is given for that. For what other reasons—friendship? I do not know all of you. I do not know the names of hundreds who take part in this presentation, so that I do not think it can be altogether friendship. No. You cannot put my own interpretation of it. Whatever thought you have in mind, it is not necessarily one that I shall adopt. I prefer to look upon it as an expression of this society of work, attempted to be well done. As we go down into the valley of the lengthening shadows, we will see this beautiful gift surrounded by the faces of friends, colleagues, brothers. I shall believe that on this occasion the society spoke to me in the language of the Master when he said to the servant who had but a single talent, "Well done, thou good and faithful servant." (Loud applause.)

Adjourned.

The general meeting was called to order at 4 p. m., by the president.

The secretary presented a short report of the proceedings of the House of Delegates and of the officers elected.

(For particulars, see Minutes of the House of Delegates.)

The president appointed Drs. Parker and Kanavel to escort the president-elect to the platform.

Dr. Nickerson, in introducing his successor, said: Dr. Whalen, it gives me great pleasure to introduce you as the president-elect of the Illinois State Medical Society, and in so doing, I place this gavel, which has a history of great value, in your hands for safe keeping. I hope you will wield it with discretion and impartiality, and hand it down to the next president. (Applause.)

Dr. Whalen, in accepting the presidency, said: I am very much pleased at this opportunity of coming before you as your president. It is the custom, I believe, for a few remarks to be made by the incoming officer, and in order that I may not overlook anything, I have reduced what I have to say to writing, hoping it will convey some ideas to you that will be of value.

Dr. Whalen's address appears on page 20.

The Secretary: I have just had a telephone talk with Dr. John B. Murphy of Chicago and he asked me to present the following:

"Honorable Henry, of Texas, has introduced a bill in Congress establishing a Committee on Health and Quarantine. I would ask that the president of this society appoint a committee of one or two physicians in every congressional district in this state, requesting them to either interview or write letters to their respective congressmen to support Mr. Henry in his endeavors for the establishment of this committee; also to ask that Congressman Foster of Olney, Ill., be on this committee, as he is in favor strongly of a national department of health."

After reading the message from Dr. Murphy, the secretary moved that the president make the appointment as requested.

Motion seconded and carried.

The president suggested that as many members as possible submit names to him for consideration in the various congressional districts in which they may happen to reside.

On motion, the society adjourned *sine die*.

MINUTES OF SECTIONS ONE AND TWO

SECTION ONE.—Chairman, Dr. Frank P. Norbury, Springfield; Secretary, Dr. J. F. Churchill, Chicago.

SECTION TWO.—Chairman, Dr. Stephen C. Glidden, Danville; Secretary, Dr. H. M. Richter, Chicago.

MAY 21, 1913—FIRST DAY, MORNING
SESSION

The sections were called to order at 9:30 by Dr. Norbury.

Dr. T. H. D. Griffiths of Springfield read a paper entitled "Status of Vital Statistics in Illinois and Our Obligations."

This paper was discussed by Dr. Lillie, and in closing by the author of the paper.

Dr. J. E. Allaben of Rockford read a paper on "Report of a Case of Transplantation of Bone for Ununited Fracture of the Right Tibia, with Remarks on Osteogenesis."

This paper was discussed by Drs. Harris, Fairbrother, Beck, and discussion was closed by the essayist.

Dr. W. W. Hamburger of Chicago read a paper entitled "Sporotrichosis in Man."

The paper was discussed by Drs. Bevan, Shaffer, Zurawski, and in closing by the author of the paper.

Dr. P. B. Magnuson of Chicago read a paper entitled "Operative Treatment of Ununited Fractures with Contracture of the Attached Muscles," which was discussed by Drs. Plummer, Grinstead, Beck, Eisendrath, Frank, Schroeder, Brown and Ridlon.

Dr. Theodore H. Weisenburg of Philadelphia gave a talk on various nervous and mental diseases, which was illustrated by motion pictures.

On motion, the joint sections adjourned until 2 p. m.

FIRST DAY—AFTERNOON SESSION

The joint sections reassembled at 2 p. m., and were called to order by Dr. Glidden.

Dr. D. B. Phemister of Chicago read a paper entitled "Some of the Rarer Fractures About the Wrist Joint."

Dr. Frederick Tice of Chicago followed with a paper entitled "Auricular Fibrillation," which was discussed by Dr. Pollock.

Dr. Arthur Dean Bevan of Chicago read a paper entitled "Clinical Research on the Surgery of the Upper Abdomen," which was discussed by Drs. Billings, Harris, Andrews and in closing by the essayist.

Dr. Frank Billings of Chicago read a paper entitled "Benzol in the Treatment of Leukemia."

Dr. William E. Schroeder of Chicago read a paper entitled "Nephroptosis," which was illustrated with numerous stereopticon slides.

The paper was discussed by Drs. Bevan, Cubbins, Billings, and in closing by the essayist.

On motion, the joint sections adjourned until Thursday, 8:30 a. m.

SECOND DAY—MORNING SESSION

The sections were called to order at 9 a. m., by Dr. James F. Churchill.

The first paper was one by Dr. C. G. Grulee, of Chicago, entitled "The Gold Chlorid Reaction (Lange) of the Cerebrospinal Fluid in Congenital Syphilis; A Preliminary Report."

No discussion.

Dr. D. W. Graham of Chicago read a paper on "Management of the Wound after Amputation of the Breast for Carcinoma."

Discussed by Drs. L. Ryan, W. R. Cubbins, F. A. Besley and in closing by Dr. Graham.

Dr. Ethan A. Gray of Chicago read a paper on "Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis, with Cases."

Discussed by Drs. C. A. Elliott, John Ritter, and in closing by Dr. Gray.

Dr. C. B. Johnson of Champaign read a paper on "Three Score Years and Ten—and After."

Discussed by Drs. T. J. Pitner, D. W. Graham, J. D. Robertson, and in closing by Dr. Johnson.

Dr. E. Wyllys Andrews of Chicago read a paper on "Operative Relief or Barrel-Shaped Chest of Bronchial Asthma, or Rigid Dilatation of the Thorax."

Discussed by Dr. L. Ryan.

At this juncture Dr. Stephen C. Glidden of Danville, Chairman of Section Two, appointed as Nominating Committee Dr. Cubbins of Chicago, Chairman; Dr. Owen of Dixon, and Dr. Sherman of Aurora. This committee was to make its report at the afternoon session.

Dr. Theodore H. Weisenburg of Philadelphia presented "Motion Pictures, Illustrating Various Nervous and Mental Diseases."

No discussion.

Dr. C. A. Elliott of Chicago read a paper on "X-Ray Manifestations of Gastro-Intestinal Motility."

Discussed by Drs. Cubbins, C. G. Grulee, and the discussion not closed by the essayist.

Dr. G. T. Courtenay of Chicago read a paper on "An Experimental Study with Intestinal Suture Materials."

Discussed by Drs. Cubbins, Richter, and the discussion closed by Dr. Courtenay.

The meeting adjourned, to reconvene at 2 p. m.

SECOND DAY—AFTERNOON SESSION

The joint sections were called to order by Dr. H. M. Richter at 1:30 p. m.

Dr. E. M. Sala of Rock Island read a paper on "A Simple Method of Preparing Catgut."

Dr. Mark T. Goldstine of Chicago followed with a paper on "Hemorrhage in the Newborn."

Discussed by Dr. Lespinasse.

Dr. Frederic A. Besley of Chicago read a paper entitled "A Consideration of One Hundred and

Seventy-Two Cases of Traumatic Injuries of the Abdomen."

The paper was discussed by Drs. Collins, Robertson, O'Byrne, Kanavel, Sala, Goldstine, and discussion closed by the essayist.

Dr. Charles L. Scudder of Boston delivered the oration in surgery. He selected for a subject "Stenosis of the Pylorus in Infancy."

Dr. Glidden, on behalf of the joint sections, thanked Dr. Scudder for his excellent address.

Dr. Sumner M. Miller of Peoria read a paper entitled "The Early Identification of Tuberculosis of the Lungs."

The paper was discussed by Dr. Ritter.

Dr. William R. Cubbins presented the following report of the Committee on Nominations for Officers of Sections.

Chairman of the Surgical Section, Dr. F. A. Besley, Chicago; Secretary, Dr. E. M. Sala, Rock Island.

Chairman of the Medical Section, Dr. George A. Parker, Peoria; Secretary, Dr. C. G. Grulee, Chicago.

On motion of Dr. Robertson, the report was adopted.

Dr. S. E. Munson of Springfield read a paper on "Mitral Stenosis Complicating Pregnancy," which was discussed by Dr. Sumner Miller.

Dr. Carl E. Black of Jacksonville followed with a paper entitled "Displacement of the Colon."

Discussed by Dr. Kreider.

Dr. C. B. Caldwell of Lincoln read a paper entitled "The Physician and the Defective."

Discussed by Dr. Norbury.

On motion, the joint sections then adjourned *sine die*.

MINUTES OF SECTION ON EYE, EAR, NOSE AND THROAT

Dr. Willis O. Nance of Chicago, Chairman.

Dr. George F. Suker, Chicago, Secretary.

MAY 21, 1913—MORNING SESSION

The section was called to order at 9 a. m., by Dr. Ostrom.

There were fifty members present.

Dr. L. Ostrom of Rock Island read a paper on "Ventilation Rather than Drainage Essential for the Care of Sinus Disease, with Special Notes on the Antrum of Highmore."

Discussed by Drs. J. C. Beck, W. L. Ballenger, A. H. Andrews, F. Brawley, N. H. Pierce, J. Holinger, Frank Allport and the discussion closed by Dr. Ostrom.

Dr. H. W. Woodruff of Joliet read a paper on "The Rôle of the Tarsus in Trachoma."

Discussed by Drs. Frank Allport, Sheldon Clark, H. S. Gradle, L. Ostrom, Geo. F. Suker, F. Brawley, and in closing by Dr. Woodruff.

Dr. Norval H. Pierce of Chicago read a paper on "Diagnosis and Treatment of Meningeal Complications of Suppurative Diseases of the Temporal Bone," which was discussed by Drs. J. C. Beck, J. Holinger, Frank Allport, Carroll Welton, W. L. Ballenger, H. Kahn, J. R. Fletcher, J. C. Beck, Sheldon Clark, and the discussion closed by Dr. Pierce.

Dr. Carroll B. Welton of Peoria read a paper entitled "A Report of the Examination of the Eyes in General Paralysis of the Insane, in a Series of Fifty Cases."

Discussed by Drs. H. W. Woodruff, Geo. F. Suker, A. H. Andrews, and the discussion closed by Dr. Welton.

Dr. H. S. Gradle of Chicago read a paper on "The Use of Hexamethylamin in Ophthalmology."

Discussed by Drs. N. H. Pierce, J. C. Beck, W. O. Nance, Frank Allport, and the discussion closed by Dr. Gradle.

Dr. C. G. Darling of Chicago read a paper entitled "The Treatment of Trachoma, with Special Reference to Expression and Friction with the Author's Ground Glass Rod."

No discussion.

On motion of Dr. Clark, seconded by Dr. Suker, the chairman appointed a committee of three on nominations, to report back at the afternoon session, as follows: Drs. Clark, Peck and Allport.

On motion, the meeting then adjourned.

AFTERNOON SESSION

The section reconvened at 1:30 p. m., and was called to order by Dr. Nance.

Dr. G. W. Geiger of Kankakee read a paper on "Relation of Nasal Troubles to Catarrhal Conditions of the Ear," which was discussed by Drs. N. H. Pierce, H. L. Pollock, Frank Allport, J. A. Pratt, A. H. Andrews, and the discussion closed by Dr. Geiger.

Dr. A. H. Andrews of Chicago read a paper on "The Blood-Clot in Mastoid Operations."

Discussed by Drs. N. H. Pierce, J. C. Beck, Frank Allport, and in closing by Dr. Andrews.

Dr. Willis O. Nance then read his address as chairman, entitled "What Illinois Can do to Prevent Blindness."

The address was discussed by Drs. Frank Allport, D. D. Barr, Prince of Springfield, Brobst of Peoria, but not closed by the chairman.

The Nominating Committee here made its report through its Chairman, Dr. Clark. The committee nominated Dr. H. W. Woodruff of Joliet as Chairman, and Dr. C. B. Welton of Peoria as Secretary.

Moved by Dr. Ballenger and seconded by Dr. Pierce that the Secretary cast the ballot of the Section for their election, which was done, and resulted in the unanimous election of these gentlemen for the ensuing year.

Dr. J. A. Pratt of Aurora read a paper on "The Etiology of Hypertrophic Rhinitis," which was discussed by Drs. W. L. Ballenger, Mundt, and in closing by the essayist, Dr. Pratt.

At this point Dr. Nance, the Chairman, asked Dr. A. B. Middleton of Pontiac to take the Chair, which he did.

Dr. J. Holinger of Chicago read a paper on "The Treatment of Nerve Deafness," which was discussed by Drs. H. Kahn, P. J. H. Farrell, J. C. Beck, W. L. Ballenger, G. H. Mundt, and the discussion closed by Dr. Holinger.

Dr. G. H. Mundt of Chicago read a paper on "The Subjective Tests of Hearing," which was discussed by Drs. J. Holinger, and Mundt, in closing.

On motion, the meeting adjourned.

MINUTES OF THE SECTION ON PUBLIC HEALTH AND HYGIENE

MAY 20, 1913

Dr. J. W. Van Derslice, Chairman, presided.

Walter W. Greaves, La Salle, read a paper on "Milk Supply of Smaller Cities and Towns."

Discussed by H. B. Hemenway, Evanston; Adolph Gehrmann, Chicago; Charles E. Crawford, Rockford; Sandor Horwitz, Peoria; H. J. Gahangan, Elgin; R. R. Ferguson, Chicago, and J. W. Van Derslice, Chicago.

Francis G. Blair, Superintendent Department of Public Instruction, Springfield, read a paper on "Country School Sanitation" (by invitation).

Louis Becker, Knoxville, read a paper on "Country School Sanitation; the Medical Viewpoint."

Discussed as one paper by W. W. Greaves, La Salle; M. W. Snell, Litchfield and R. R. Ferguson, Chicago.

Superintendent Blair, in closing, called attention and urged support of Senate Bill No. 354. Following Mr. Blair, Becker from Knoxville and seconded by Hemenway from Evanston, put the following motion:

Resolved, In the interest of public health that this section recommend to the State Legislature the passage of Senate Bill No. 354.

Prof. Edward Bartow, Ph.D., Director State Water Survey, Urbana, read a paper on "Farm Wells."

Prof. Paul Hansen, B.S., Engineer State Water Survey, Urbana, read a paper on "Vital Statistics and Water-Supply."

Discussed as one by Adolph Gehrmann, Chicago.

Sumner M. Miller, Peoria, read a paper on "Methods of Control of Tuberculosis."

Discussion by John Ritter, Chicago; J. W. Pettit, Ottawa, and T. O. Hardesty, Jacksonville.

Drs. Crawford, Rockford, and Ferguson, Chicago, were appointed a committee by the chair to meet Dr. Oscar Dowling's "Health Train."

The Health Train of the Louisiana State Board of Health under the personal supervision of Dr. Oscar Dowling and his assistants came to Peoria on Wednesday morning, and was, by the courtesy of the Interurban Railway Company, placed on the tracks in the central business portion of the city. This was a great convenience and gave all visitors a rare opportunity to examine the same.

We are under many obligations to Dr. Dowling, the President of the Louisiana State Board of Health, for bringing this train to the meeting as well as for his demonstration of diffusing the necessary information of how to live right.

The exhibits took up all phases of correct living, housing and general hygienic and sanitary conditions. As a model lesson to the profession and laity it cannot be excelled. It drives home truth in a manner that immediately compels attention, as well as giving the remedies of the most modern and efficient means of correcting existing evils in bad sanitary and hygienic conditions.

The Nominating Committee recommended the following for election: For president, J. W. Van Derslice, Chicago; for secretary, James A. Poling, Freeport.

Nomination seconded by Ryman, Mt. Pulaski. Question put by Gehrman. Carried.

Meeting adjourned.

W. W. GREAVES,
Sec. Pro Tem.

COUNTY SECRETARIES CONFERENCE

The County Secretaries Conference met May 20, 1913, in the Gold Room of the Jefferson Hotel, and was called to order at 3 p. m. by the President, Dr. E. W. Oliver of Peoria. Dr. Jennie Lyons, Champaign, acted as Secretary.

Dr. L. H. A. Nickerson, Quincy, President of the Illinois State Medical Society, read a paper on "Organization."

Dr. Rock Sleyster, Waupun, Wis., Secretary of the County Secretaries Association of Wisconsin, read a paper entitled "A Booster Sermon."

Dr. Alexander R. Craig, Chicago, Secretary of the American Medical Association, followed with a talk on "Cooperation."

Dr. E. W. Fiegenbaum, Edwardsville, read a paper on "The County Society Bulletin."

Dr. T. D. Cantrell, Bloomington, Secretary of the McLean County Medical Society, read a paper entitled "The Ideal Secretary."

Adjourned.

OFFICIAL MINUTES OF THE HOUSE OF DELEGATES

The House of Delegates met in the Gold Room of the Jefferson Hotel, May 20, 1913, at 8:50 p. m., and was called to order by the President, Dr. L. H. A. Nickerson of Quincy.

The Secretary presented the report of the Committee on Credentials and announced that 104 delegates had responded to the call of the roll.

It was moved that the report be adopted as read, and that the delegates be seated.

Motion seconded and carried unanimously.

The President: The next thing in order is the reading of the minutes of the last meeting.

Dr. W. O. Ensign, Rutland: I move that the minutes as printed be approved.

Motion seconded and carried.

The Secretary presented his report, as follows:

SECRETARY'S REPORT

To the House of Delegates of the Illinois State Medical Society:

Gentlemen:—Your secretary begs leave to present the following as his report of a part of the work done by him during the past year. The following is a financial statement of moneys received from all sources from May 1, 1912, to April 30, 1913, both inclusive:

Adams	\$ 132.00
Bureau	48.00
Bond	29.00
Boone	34.00
Browne	22.00
Bureau	91.50
Calhoun	20.00
Carroll	31.50
Cass .....	.00
Champaign	176.50
Christian	81.50
Clark .....	.00
Clay	30.00
Clinton	41.00
Coles	10.00
Cook	5,762.50

Crawford	48.00
Cumberland	11.50
DeKalb	126.00
Dewitt	73.00
Douglas	2.00
Edgar	6.00
Edwards	20.00
Effingham	46.00
Fayette	28.00
Franklin	22.50
Fulton	82.00
Gallatin	6.00
Greene	70.00
Grundy	49.00
Hamilton	36.00
Hancock	40.00
Hardin	10.00
Henderson	26.00
Henry	74.00
Iroquois-Ford	101.00
Jackson	48.00
Jasper	2.00
Jefferson	30.50
Jersey	18.00
Jo Daviess	54.00
Johnson	18.00
Kane	123.50
Kankakee	172.00
Kendall	8.50
Knox	139.00
Lake	112.00
La Salle	232.00
Lawrence .....	.00
Lee	22.00
Livingston	113.50
Logan	26.00
McDonough	74.00
McHenry	74.00
McLean	95.00
Macon	158.50
Macoupin	102.00
Madison	178.00
Marion	4.00
Marshall-Putnam	40.50
Mason	70.50
Massac	32.50
Menard .....	.00
Mercer	56.50
Monroe	25.00
Montgomery	60.50
Morgan	100.00
Moultrie	14.00
Ogle	50.00
Peoria	265.50
Perry	12.00
Piatt	29.00
Pike	58.50
Pope .....	.00
Pulaski	17.50
Randolph	39.50
Richland	5.00
Rock Island	139.50
St. Clair	180.00
Saline	52.00
Sangamon	338.50
Schuyler	18.00
Scott	28.00
Shelby	25.50
Stark	24.00
Stephenson	73.00
Tazewell	54.00
Union	16.50
Vermilion	200.50
Wabash	38.00
Warren	56.00
Washington	46.00
Wayne	38.00

White	38.00
Whiteside	48.00
Will	124.50
Williamson	77.50
Winnebago	161.00
Woodford	34.00
Subscription	61.60
Exhibit fund.....	575.00

Total\$12,514.60

The above does not include the per capita tax for 1912 of 2,154 members of the Chicago Medical Society, which was received since the closing of this report.

It gives me great pleasure to be able to report that every county in the state is now in good standing. Hardin and Saline counties have revived and Pope County for the first time in its history is starting out on a good basis. The significance of this lies in the fact that now there is not a single county existing in this state but what a member of the profession can become a member of the state society and a fellow of the American Medical Association.

We have now only two hyphenated societies in the state, the Marshall-Putnam and Iroquois-Ford. Du-page County still maintains the privilege of joining with Cook County.

You all remember that President Nickerson in his inaugural address stated that he would devote most of his energy during his incumbency of office to the endeavor of increasing our membership. That he has redeemed this pledge will be shown by the following figures. I am in a position to know how arduously and earnestly he has striven to accomplish this work. It seems to me that he never for one minute lost sight of this one object for he has kept us all very busy in assisting him in this great undertaking.

In pursuance of this project he enlisted the hearty cooperation of the county secretaries, of the Council and of the secretary of the American Medical Association. These three bodies working together as they have, produced results that are most gratifying as well as astonishing.

There have been added new members to our society during the last year, 672; there have been reinstated, 98, making a total of 770. In addition to this there are now about 125 applications pending in the various county societies for election, which, added to the above will give us practically 895. This is the largest total gained in our history. We have dropped from membership 353 and death has removed from our roll 30.

I regret to report that the lecture bureau is gradually dying of inanition. This is due to the fact, as I have previously stated, that there is no way of keeping before the county secretaries and program committees the existence of this bureau. Another factor is that the members of the county societies do not seem to fully appreciate the importance of having a speaker come to them at his own expense by providing a sufficient number as an audience to make it worth while. Again meetings are held at inaccessible places, making it almost impossible for a speaker to attend.

Your secretary during the past year has attended every meeting of the Council and several committee meetings, also a number of county society meetings.

During the fiscal year of 1912 your secretary drew ninety-five voucher checks for the total amount of \$15,477.42. From this, however, must be subtracted \$2,000 which was drawn on the Medical Defense Fund

on December last, and was not presented for payment until after the close of the books for 1912.

The books of the secretary and treasurer were submitted to the Auditing Committee appointed by President Nickerson in accordance with the resolution adopted by this House last year.

I desire to add a word of commendation for the present county secretaries that we have in this state. Never before has there been so great an interest shown by these executive officers. Their prompt replies to correspondence, the collection of dues and remittance of the per capita tax all indicate a higher order of ability and diligence than we have ever had.

Your secretary mailed the usual blanks in September and December for a report of the physical condition of each society. All of the requests these blanks contained were promptly complied with giving the councilors and officers of the society a comprehensive view of everything pertaining to society work.

Respectfully submitted,

E. W. WEIS, Secretary.

The President: You have heard the report of the Secretary. What will you do with it?

Dr. Charles C. O'Byrne, Chicago: I move that the report be accepted and placed on file.

Motion seconded and carried.

The President: We will now listen to the report of the Council, which will be read by the Chairman, Dr. Carl E. Black.

Dr. Black presented the following report:

REPORT OF THE COUNCIL*

Peoria, Illinois, May 20, 1913.

To the Members of the House of Delegates of the Illinois State Medical Society:
Gentlemen:

In accordance with the instructions of the By-Laws of the Illinois State Medical Society it becomes the official duty of the chairman of the Council to report the work done by that body during the interim since our last annual meeting.

The council has had four meetings during the year; the first was held in Chicago on June 1, 1912; the second, in Chicago on Sept. 26, 1912; the third, in Peoria on Jan. 2, 1913, and the fourth in Chicago on April 3, 1913.

At the June meeting the following officers were elected: Carl E. Black, chairman; J. F. Percy, J. F. Stealy and Carl E. Black, members of the Publication Committee. George N. Kreider, editor of the *Illinois Medical Journal*, and George E. Baxter, assistant editor and advertising manager of the *Illinois Medical Journal*. The bond of the secretary for \$4,000, and the bond of the treasurer for \$10,000 were approved and accepted. In pursuance to a former resolution President-Elect Whalen was invited to attend and take part in the deliberations of the Council, although the By-Laws do not make this officer a member of the Council. The president-elect has attended every meeting but one.

* The Report of the Council came into the Editor's hands July 1, at 2:15 P. M., and was delivered to the printer at 2:45 P. M. The printers had a holiday July 4-5.

LOCAL SOCIETIES

At the June meeting the president and secretary were authorized to inaugurate an active and progressive campaign for members in the various counties. In accordance with suggestions already received from the American Medical Association the committee was instructed to cooperate with that body in putting organizers into the field who would secure members not only for the local societies but also for the national society, thus enabling us to carry on the campaign with much less expense than if the organizers were paid solely by the state society. This campaign has been pushed aggressively during the year, with the result that a large number of new members have been added to the various component units and over a month ago the membership passed the six thousand mark and to-day we have about 6,100 members.

While we have almost reached the maximum of membership estimated by numbers we are still far from reaching the maximum of efficiency. As your Council has reported several times before, many local societies are still weak and many exist in little more than name. Another factor has become apparent during the year; namely, that attendance does not always mean efficient medical society work. Some societies, through various extraneous agencies and attractions, have increased in attendance without increasing their efficiency. At least the councilors feel that some societies are in this situation. At present one of the pressing problems of the future is how to enable the county societies to become really efficient workers for better things in medicine: How can the county society help the practitioner to do better work and thereby become the blessing to the community which it should be and which is the ultimate object of the organization? Your council would for a moment call your attention to the fundamental fact that we exist as a profession and are organized into societies primarily for the benefit of the sick and suffering. As yet some societies are contributing little towards improvement in this direction and organization from this time on must largely partake of devising ways and means of increasing the efficiency of each society.

PRESIDENT NICKERSON: During the year the president of your society has made a strenuous effort to secure 85 per cent. of the medical men of the state as members of the various organizations. He has visited a number of societies in all parts of the state and everywhere has met with the fraternal spirit which should greet the president of a state society. Much of the increase in membership gained during the year is due to the individual work of the president. He began his campaign early by announcing at the June meeting of the Council that he desired to devote the year to a campaign for new members and to this end desired each councilor to make engagements for him in the counties of his district.

As a part of the report of the Council, Dr. George N. Kreider, Springfield, read his report as editor, as follows:

REPORT OF THE EDITOR

At the Peoria meeting in 1901 the present editor of *THE JOURNAL* of the Illinois State Medical Society was elected and has been in full charge of the editorial columns from that date. However, *THE JOURNAL* was started at the meeting held at Cairo, May, 1899, at

his suggestion, and while not nominally editor the large part of the work and responsibility of the first two years was placed on him. Mention is made of these two facts merely to develop the history of the first fourteen years of the ILLINOIS MEDICAL JOURNAL, which is probably not known to a large number of the present members of the state society. Those who are acquainted with the history have seen *THE JOURNAL* develop from a forty-eight-page pamphlet without advertising, with a circulation of 500, to its present size of 120 pages or more of reading matter, with from twenty to thirty pages of advertising and with a circulation of 6,100. They also know that we had in 1899 less than \$500 assets, and that now as a result of the activity which was inaugurated by reason of the publication of the monthly *JOURNAL* the assets of the society are more than \$15,000. Not only this, but since 1901 all legitimate expenses of those gentlemen holding executive positions in the society have been regularly paid. Before that date the only officers paid were meager salaries to the secretary and treasurer. The society has been able to spend money for the use of legislative and educational committees, and has sent out with the last issue of *THE JOURNAL* an index of the first forty-nine years of the society's transactions, all of which has been paid for without any additional tax. It may not be amiss also to state that in the year 1899 the annual dues of the members of the state society was \$3, whereas with even the insurance feature of the state society the dues are now only \$2.

Although remarkable progress has been made during the past fourteen years, the editor is only too well aware that much more might have been accomplished had he been able to give his entire time to the editing of *THE JOURNAL*, or had some other member of greater talent and more enterprise been in charge of the publication. He has endeavored to represent the state medical affairs in the state as he saw them, nor set down aught but truth, nor aught in malice say. He is also aware that a large number of mistakes of omission and commission have been committed, and only pleads in extenuation that it has been his sincerest desire to give at all time faithful service to the society and profession which *THE JOURNAL* represents.

In 1901 advertisements were admitted to the columns of *THE JOURNAL*. The Publication Committee faced the problem of the character of the advertisements some six years ago; and since then all advertisements which were not strictly ethical have been refused. This was done at a considerable reduction in the income from this source.

In view of the difficulties surrounding the advertising situation the editor called together in February, 1912, the editors and managers of the neighboring states to-wit: Indiana, Michigan, Kentucky, Minnesota, Ohio, Missouri, Wisconsin, Iowa and Kansas, to hold a conference at Chicago, to see whether an advertising manager might not be obtained, who would look after the advertising interests of all these journals. While no arrangement had been devised which would be satisfactory to all the journals represented, yet a beginning was made and it is possible that before long arrangements will be completed which will greatly benefit our advertising columns.

Recently the advertising manager of *The Journal A. M. A.*, has submitted a proposition which deserves consideration, and which no doubt might be made effective in the very near future.

During the past year the number of journals issued has been from one to three hundred greater than any previous year. The number of subscribers in other states and foreign countries has also shown a tendency to increase. It is my belief that THE JOURNAL at this time, while in a prosperous condition, can be developed still further, and that the coming ten years will see even greater advancement in our society and its official publication than has marked the past ten years.

GEORGE N. KREIDER, Editor.

In account with the Illinois State Medical Society.

May 16, 1912, to May 16, 1913.

Received from E. W. Weis, secretary.....\$1,320.00

Credits

Paid to Katherine Schimenz, stenographer—

1912, June, July, Aug., Sept..... 90.00

1912, Oct., Nov., Dec..... 78.00

1913, Jan., Feb., March, April, May 145.00

—————\$ 313.00

Illinois Central, freight—

1912, May, June, July, August... 70.63

1912, Sept., Oct., Nov., Dec..... 67.77

1913, Jan., Feb., March, April, May 92.84

—————\$ 233.33

Paid to L. E. Wheeler, journal postage—

1912, June, July, Aug., Sept..... 145.79

1912, Oct., Nov., Dec..... 104.49

1913, Jan., Feb., March, April, May 200.92

—————\$ 461.27

Paid to L. E. Wheeler, stamps and box—

1912, May, June, Sept..... 21.17

1912, Oct., Nov., Dec..... 10.00

1913, January, March, May..... 18.00

—————\$ 49.17

John Anderson, for hauling journals, and

F. M. James—

1912, June, July, August..... 12.00

1912, Sept., Oct., Nov., Dec..... 16.00

1913, Jan., Feb., March, April, May 20.00

—————\$ 48.00

Paid to Central Union Tel. Co.—

1912, June, July, Aug., Sept..... 7.05

1912, Oct., Nov., Dec..... 13.30

1913, Jan., Feb., March, April, May 5.03

—————\$ 25.38

Interstate Tel. Co.—

1912, June, July 1.40

—————\$ 1.40

Illinois Press Clipping Bureau—

1912, July, Aug., Sept., Oct., Nov. 22.08

1913, Jan. Feb., March, April, May 25.00

—————\$ 47.08

American Express—

1912, December 2395

—————\$.95

Mrs. Carpenter, translation—

1912, May 29 5.00

—————\$ 5.00

S. W. Kutz—

1912, June 5 3.50

—————\$ 3.50

E. H. Hamann—

1912, June 24 14.00

..... 5.00

—————\$ 19.00

Illinois State Journal Co.—

1912, July 10 and May..... 3.50

1913, May 19 39.00

—————\$ 42.50

Coe Bros.—

1912, November 2.55

1913, February, May 3.03

—————\$ 5.58

Chicago Tribune—

1912, September 4 4.00

—————\$ 4.00

Lincoln Bindery—

1913, April 46.50

—————\$ 46.50

Western Union Tel. Co.—

1912, November 860

—————\$.60

Katherine Schimenz—

June 4, 1912.....\$ 10.00

July 1, 1912..... 26.00

August 2, 1912..... 27.00

September 5, 1912..... 27.00

October 1, 1912..... 25.00

November 1, 1912..... 27.00

December 1, 1912..... 26.00

January 1, 1913..... 26.00

February 3, 1913..... 27.00

March 1, 1913..... 24.00

April 1, 1913..... 26.00

May 1, 1913..... 26.00

May 18, 1913..... 16.00

—————\$ 313.00

Illinois Central, freight—

May 18, 1912.....\$ 18.15

June 15, 1912..... 18.31

July 8, 1912..... 18.32

August 9, 1912..... 17.85

September 13, 1912..... 17.93

October 10, 1912..... 16.09

November 2, 1912..... 14.25

December 16, 1912..... 19.59

February 5, 1913..... 16.20

February 13, 1913..... 17.09

March 14, 1913..... 13.82

April 10, 1913..... 15.55

May 19, 1913..... 30.18

—————\$ 233.33

L. E. Wheeler—

June 15, 1912.....\$ 38.14

July 9, 1912..... 37.71

August 10, 1912..... 37.91

September 10, 1912..... 42.20

October 10, 1912..... 34.42

November 7, 1912..... 29.76

December 11, 1912..... 40.34

January 15, 1913..... 36.10

February 11, 1913..... 33.64

March 15, 1913..... 31.56

April 15, 1913..... 33.89

May 19, 1913..... 65.73

—————\$ 461.27

Total paid out.....\$1,320.60

1,306.26

Balance\$ 13.14

At the conclusion of the report, Dr. Kreider said: Every year for many years I have been in the habit of tendering my resignation as editor of THE JOURNAL, and the time seems to have come when I should insist on its acceptance. In doing so, I wish to thank the members of the Council and of the State Society for the indulgence which they have shown me in the past twenty-three years, and to thank them for their consideration.

TREASURER'S REPORT: The following is the report of your treasurer, Dr. A. J. Markley, from Dec. 31, 1912, to May 16, 1913.

RECEIPTS:

Balance on hand Jan. 1, 1913.....	\$4375.25
From Dr. E. W. Weis, Secretary.....	3914.30
From Advertisements (Dr. G. E. Baxter)...	1526.07
From Armour & Company.....	20.00
	<hr/>
	\$9835.62

DISBURSEMENTS:

American Medical Association....	\$1707.00
Councilor's Expense	222.05
Dr. George N. Kreider, Expense.....	563.00
Dr. E. W. Weis, Expense.....	352.48
Dr. George E. Baxter, Expense....	671.33
Dr. C. J. Whalen, Expense.....	50.50
Library Morgan Co. Med. Soc.....	498.50
Edward Olson (Legislative Work)...	25.00
Printing and Stationery.....	147.25
Exchange (Baxter)	1.00
Expense—Sundries	26.83
	<hr/>
Balance	5570.68
	<hr/>
	\$9835.62

RECAPITULATION

Finances Illinois State Medical Society, Dr. A. J. Markley, Treasurer.	
Deposited with Farmers State Bank, Belvidere, Ill.:	
Open Account	\$1055.68
Savings Account at 3% Interest..	4515.00
	<hr/>
	\$5570.68

MEDICO-LEGAL DEFENSE COMMITTEE FROM JAN. 1, 1913, TO MAY 16, 1913**RECEIPTS:**

Balance on hand Jan. 1, 1913.....	\$ 9958.93
From Dr. E. W. Weis, Secretary.....	3637.00
	<hr/>
	\$13,595.93

DISBURSEMENTS:

Cheek to Dr. H. N. Moyer.....	\$ 2000.00
Balance	11,595.93
	<hr/>
	\$13,595.93

Finances Medico-Legal Defense Committee, Dr. A. J. Markley, Treasurer. Deposited with Farmers State Bank, Belvidere, Illinois.

Savings Account at 3% Interest...\$11,595.93

INDEX TO THE TRANSACTIONS: With the last number of the JOURNAL each member of the State Society received a copy of the Index to the Transactions of our Society from 1850 to 1898, inclusive. The work of compiling and arranging this index was done by the librarian of the Morgan County Medical Society under the direction of the Publication Committee and the chairman of the Council. It is the hope of your Council that this work will be found useful to the members of the Society and that it will make a foundation for further investigation of the history of the State Society. Some members think the Society should undertake the republication of these transactions. The Index would thus become doubly valuable as it would be very easy to preserve the original paging.

About the time the copy was ready to go to the printer it was suggested by the editor of the ILLINOIS MEDICAL JOURNAL that the Index would be greatly improved and made more interesting if a few pictures of the members of that period could be inserted. Your chairman wrote to each councilor and each county

secretary asking them to send pictures of members who were active in the State Society during the period and we were gratified to receive nearly one hundred and fifty pictures. The credit of securing these pictures is largely due to local secretaries. In some instances we were disappointed in not being able to secure pictures of certain prominent members whose faces will be missed by those looking over the Index. The time was short, however, and it was impossible to delay the publication. Undoubtedly, if we could have taken another month to secure the pictures many more might have been obtained.

CAMPAIGN IN PREVENTIVE MEDICINE: During the year through the efforts of the Council on Public Health and Hygiene of the American Medical Association a considerable number of speakers have discussed these subjects in various communities of the state. This work should be extended until every schoolhouse and other center will have one or more lectures on these important problems every year. It is one of the most important works which the organization has undertaken.

MEDICAL EDUCATION: On March 1, 1913, the members of the Council and other officers of the State Society accepted the invitation of Governor Dunne to call on him at the executive offices to discuss questions of public health and medical education. It was made an opportunity for the officers of your Society to express to the Governor their views on this subject and we believe the opportunity was improved to the best of our ability. At the request of Governor Dunne a written statement of our views was furnished to the Governor and also a copy to the State Board of Health with the understanding that the board would reply in writing and furnish us a copy. Our communication called attention to the field occupied by the Illinois State Medical Society and its present size, the fact that we did not appear in the interest of any individuals for appointment or for the purpose of urging an increase in the expenditure of the board, but only in the interest of the protection and care of the public health.

* * * * *

NEW SECTIONS: This year two new sections, that on the Eye and Ear, and that on Public Health and Hygiene, will have programs at the annual session. The increase in size of the State Society makes it not only desirable but also necessary to divide the work in some way and the most natural and satisfactory plan seems to be that of sections which will represent the different interests and specialties within the profession.

COUNCIL REPORTS: The following is a summary by each councilor of the conditions in his district. On the whole the reports are very satisfactory and show considerable progress for the year. At the same time there is still much to be accomplished.

For the First District, Councilor Stealy makes the following report:

To the Chairman of the Council of the Illinois State Medical Society:

I have to report the following from my district. Throughout the district the work has been very satisfactory. There is an increase of membership of about 75 new members in Kane County. This increase of membership has been brought about by the solicitors of the American Medical Association. The other counties as far as I am able to report are making good progress in their meetings. The counties have all

held their meetings regularly with a good membership attendance. The lecture bureau has been of considerable service throughout my district; however, not all that it should have been.

For the Fourth District Councilor Percy makes the following report:

Gentlemen: It gives me pleasure to report at this meeting that I have had complete returns from every county of the twelve composing the Fourth District, except Schuyler County. From this county I have never been able to get a report.

eligible and non-members. Henderson County, under the efficient secretaryship of Dr. J. P. Riggs, has thirteen active members, and have had some very good meetings during the year. There are only four men in this county who are eligible and yet non-members.

It is unnecessary to emphasize that which has been spoken of so many times in these reports from the various councilors, namely, that a good secretary is the essential to a live society. This is especially true in the counties in my district which have made their best records for meetings and for valuable and pro-

COUNCILOR REPORT FIFTH DISTRICT

County.	How many members in your society?	How many meetings do you hold annually?	Has your attendance and membership increased this year?	Is your society stronger and better this year than last?	Is your society under better organization this year than in former years?	Who is your delegate to the state meeting?
Sangamon.	121 Active members	20 As a rule.	Just doubled. 18 new members.	Much more so.	I think so.	S. M. Ottis, C. D. Wright, Del. C. S. Nelson, B. B. Griffith, Alt.
Logan.	37	2 to 8	Yes.	Yes.	Yes.	H. G. Hardt, Del.
DeWitt.	23	4	Yes.	Yes.	Yes.	O. B. Edmonson, Del. C. W. Carter, Alt.
Mason.	20	4	Yes.	Yes.	Yes.	W. R. Grant, Del. O. P. Grant, Alt.
Menard.	12	2	No.	No.	No.	O. P. Brittin, Del.
Iroquois-Ford.	35	4	Membership Yes. Attendance No.	Do not think so.	I think not.	O. O. Hall, Del.
Tazewell.	31	4	Increased 7 Lost 5	Yes.	No.	F. C. Gale, Del.
McLean.	101	10	Yes.	Yes.	About the same.	W. H. Gardner, Del. W. E. Gutline, Alt.

Peoria, Rock Island, Warren, Knox, Fulton and Henry Counties are the banner counties of my district. Mercer County has also done good work; although they have a membership of only eighteen, while there are fifteen men who are eligible and are non-members of the society. Stark County has a small membership of only ten. McDonough County is also one of the banner counties of the Fourth District, having thirty-six active members now. I have been unable to learn the number of men in the county who are not members and yet eligible. Hancock County is still one of the difficult counties of the Fourth District to organize. They have twenty members on the roll of their society, and also twenty in the county who are

gressive work, namely, Rock Island, Peoria, Warren, Knox, McDonough and Henderson Counties.

It is an interesting fact that the medical profession seems to need stirring up by some one who is willing to do the stirring. Where a county is fortunate enough to select a man who has the qualifications to do this work, the results always show for themselves.

For the Fifth District Councilor Smith presents his report in the form of an interesting table which gives the various facts connected with the work in a systematic arrangement.

For the Sixth District, Councilor Black reports an organization in each county and most of them having regular meetings. A complete annual report was

received from each secretary prior to Jan. 1, 1913, and at the annual meeting the councilor was able to report on each society in detail. All the counties were much improved by the work of Organizer Cargill, who visited each county in the district and secured a large number of new members. The difficult problems are still Cass, Calhoun and Jersey Counties. Five of the societies meet monthly and six meet quarterly, excepting Calhoun County, which usually meets semi-annually.

For the Seventh District Councilor Roane reports as follows: The general condition of medical organization and of the medical profession remain about the same in the twelve counties of the Seventh District as last year and my report is therefore very similar.

Taken as a whole some gains are being made and the various county societies have a higher average of membership than a few years ago.

It is also characteristic of the meetings that more time is given and more attention paid to a discussion of health affairs and business matters relating to the practice of medicine and surgery than was formerly done.

Also quite an earnest effort is being made in a number of counties to increase the fees, which in the past have been very low. In these ways and others the societies are of practical as well as scientific benefit to the members.

Eleven counties have very creditable societies and are doing from very good to fair work.

Only one county, Piatt, failed to report to your councilor. This being a small county and overshadowed by the strong Champaign County adjoining, makes it difficult to maintain a society. It is a question for the future as to the advisability of joining Piatt with Champaign.

This in a brief way constitutes the councilor's report for the seventh district.

For the Eighth District Councilor E. B. Cooley makes the following report:

Mr. Chairman and Gentlemen of the Council: It gives me great pleasure to report the condition of the various county societies of the Eighth District generally improved, and a growing tendency on the part of the profession to uphold their organization is apparent. In the matter of total membership a particularly gratifying condition exists.

The fact that the total membership, 362, is about the same as that reported in the year 1912 would to the casual observer indicate that in the matter of organization the Eighth District has made little progress. This, however, is not the case. Death has dealt heavily with this district and the counties of Champagne and Vermilion alone have seen nine stalwarts pass into the great unknown. This, with the number of removals usual in the natural course of events, has so depleted our ranks that the 27 new members acquired show but a slight gain. It is with pleasure, however, that I am able to state that there have been but three lapses in membership on account of non-payment of dues. Every component society is at work and alive to the fact that by maintaining their organization they complete the organization of the state.

Your councilor has this year attended fifteen county society meetings, two district societies and twelve local societies, and feels in a position to say that the character of the work done is of a higher order than ever before; while there can be no doubt that the number

of medical gentlemen whom the most unbounded liberality fails to construe as eligible to membership in any county society is steadily decreasing.

For the Ninth District, Councilor Sibley makes the following report:

Reports have been received from most of the counties, namely, Washington, Jefferson, Wayne, Edwards, Wabash, Randolph, Franklin, Hamilton, White, Jackson, Williamson, Saline, Gallatin, Johnson, Hardin and Union.

The condition of these societies is fairly good and you will notice that Hardin and Saline have revived their societies this year.

It seems to be rather hard to keep up the interest in many county societies, but I can see some gain and think next year that Pope County (which is the only one not organized) may be added to the fold.

There are twenty-three counties in the Ninth District and your councilor has been unable to visit all but has visited many of the weaker ones and in each instance has been well repaid for the visit.

I am unable to give you the actual gain in membership because every county did not report, but judging from the reports sent in the gain during 1912-1913 is substantial.

Since the Ninth District contains twenty-three counties and many of them hard to reach on account of poor railroad service, it is suggested by your councilor that the Ninth District should be divided so that more attention could be given to each county.

Council Illinois State Medical Society,

By CARL E. BLACK, Chairman.

The President: You have heard the report of the Council as read by Chairman Black, of which Dr. Kreider's report forms a part. What will you do with it?

Dr. A. C. Cotton, Chicago: The report of the Council, containing as it does, strictures on the State Board of Health and its actions, I move that the House of Delegates allow ten minutes to the President of the Illinois State Board of Health to answer those criticisms, in order that we may obtain knowledge of the whole matter.

Dr. Carl E. Black: It gives me great pleasure to second the motion. (Carried.)

Dr. George W. Webster, Chicago (being accorded the privileges of the floor): *Mr. President and Members of the House of Delegates.*—I do not ask for the privilege of replying either to the charges that have been made against the State Board of Health, the suggestions that have been made by members of the Council in regard to the work of the State Board of Health, or to any of the other statements that have been made by Dr. Black concerning it. The State Board of Health has made a reply to Governor Dunne, and I do not want to weary you with this, which covers twenty-nine typewritten pages, but I would like to be permitted to answer these charges at this time in full by reading this document in full, or if the charges that have been preferred against the State Board of Health shall be a part of the

record, then I ask that the reply of the State Board to those charges and concerning these suggestions shall be also a part of the report, and if the one is published that the other be published with it. That seems only a fair proposition, and I ask that particularly because a number of statements made by Dr. Black concerning the charges and concerning the Board are not strictly in accordance with the facts. There was no agreement between us and the officers of the State Society present on that occasion that either the charges or the reply should be given in a stipulated time, as stated by Dr. Black. I made the request—in fact, the demand—that any charges they had to make should be in writing, and the state board would answer them in writing. The request was not from Governor Dunne, but from me, and the governor of the state thought that was correct. He said that if they made any attack whatever, I would have time to reply. I would simply request that I be given the opportunity now to answer all the charges and statements that were made in that report, or else that this reply go on record here and be published if the other is published.

Dr. Black: Dr. Webster should be accorded the privilege of the floor to read his reply to the communication in full. It is only justice to the House of Delegates that it should be presented here.

Dr. J. W. Van Derslice, Oak Park: I move that we strike out all reference to the Illinois State Board of Health from the report of the Council of the Illinois State Medical Society.

Motion seconded by several.

Dr. Black: The communication of the Council has been sent to Governor Dunne and signed by every member of the Council. That cannot be changed by any motion of this House of Delegates, and it is only just and fair that Dr. Webster should be given an opportunity to make his reply. As to the time, I think Dr. Webster said he would like to report in thirty days, or that he would answer the Council in thirty days, consequently it is perfectly just to take more time. I am not finding any fault with his statement in that regard. Since the report of the Council is actually in the hands of the governor, and it is a part of the action of this Society. You cannot change it by any resolution in this House of Delegates. That has been done by the Council. You have a right to know what we have been doing. This report shows what we have been doing *ad interim*, and it is only just and fair to hear Dr. Webster's reply.

At this juncture there were cries of Question! Question!

Dr. L. C. Taylor, Springfield: I move as a substitute that the report be published by the side of or following the report of the Council, and that it go into the records of the Society and in THE JOURNAL, so that everybody can see what the Council says and what the president of the State Board of Health says in reply.

Motion seconded.

The President put the substitute and declared it carried.

Dr. Van Derslice: I move that consideration of the report of the Council be postponed until Thursday morning.

Motion seconded.

Dr. Ensign: We are here for the purpose of transacting the business of this Society. Why postpone such an important matter as this that we may knock it out at the end. Let us stand by the work of the Council. Let us consider this matter carefully and let the majority rule after an intelligent discussion of the things involved. Do not put it off until the eleventh hour, as has been done in the past. Let us oppose what is wrong and stand for what is right.

Dr. O'Byrne: As I understand the chairman, this report is not complete; that he has three reports of councilors yet to get. We have plenty of work this evening if the doctor wants any sleep, and I do not believe it is the intention on the part of anyone to knock out the report or to emasculate it. We would be advancing by giving consideration to the report.

Dr. Van Derslice's motion was then put to the House and declared lost.

Dr. Bowling, Stevenson County: As the last vote was a little doubtful, one of the members called for a poll of the vote, and I make a motion that that motion be polled.

The President: It is too late.

Dr. Smith: Dr. Black has read the report. Dr. Webster has been given an opportunity to respond to part of this report. The House has voted that it shall be printed or published in connection with this report. Dr. Webster was given ten minutes, but he did not take that time. Now, we must either accept the report of the Council or reject it, and I move that we accept this report as read.

Motion seconded by several.

The President: A motion has been made that the report be accepted. It has been seconded, and the report of the Council is still before the House for discussion.

Dr. Cotton: I move as a substitute that Dr. Webster, president of the State Board of Health, be given the privileges of the floor and be asked to read his reply.

The motion was seconded, but followed by cries of No! No!

The President put the motion and declared it carried.

Dr. Smith: I made the motion that this report be accepted as read. If the House of Delegates does not want to accept the report of the chairman of the Council as read, why do you want to publish it? It ought to have been accepted before the substitute or amendment was voted on.

Dr. O'Byrne: Dr. Cotton's motion was accepted and passed by the House of Delegates. The publication of Dr. Webster's reply does not preclude reading it. If we adopt Dr. Black's report, we cannot do so unless we know something of what Dr. Webster has to say. I think the motion was in order and as passed by the House should stand.

Dr. J. H. Stealy, Freeport: The motion was out of order because the motion made by Dr. Taylor carried.

Dr. Black: Dr. Cotton's motion is only an amendment to Dr. Smith's motion, and after Dr. Webster has read the reply it will be a part of the discussion of Dr. Smith's motion. I hope Dr. Webster will be given the privilege of reading his communication.

The President: Then Dr. Smith's motion to accept the report will be in order.

Dr. Webster read his reply.

* * * * *

At the conclusion of Dr. Webster's reply, the President said: the motion before the House is Dr. Smith's.

Dr. Corwin: I rise to a point of information. The parliamentary situation is this, as I understand it: Dr. Taylor moved that this privileged reply of Dr. Webster be published in THE JOURNAL with the report of the Council, if adopted. Is that correct?

The President: Yes.

Dr. Corwin: And the motion now before the House is Dr. Smith's for the acceptance of the report, carrying with it Dr. Taylor's motion. Is that correct?

The President: Yes.

Dr. Corwin: It is obvious from this voluminous reply that it will possibly take one issue of THE JOURNAL or more to publish the report of the Council and reply of Dr. Webster, and inas-

much as the reply of Dr. Webster has to do with many matters in controversy, an ancient controversy between the chairman of the Council and the State Board of Health, in order that we may best handle the whole situation, I move as an amendment to Dr. Smith's motion that the report of the Council be adopted, expunging all reference in the report to the State Board of Health and carrying with it the expurgation of Dr. Webster's reply.

The amendment was seconded by several delegates and accepted.

Dr. Cotton: I fully appreciate the motive of the mover of the amendment. I foreshadowed it in the parliamentary introduction as to the extent of printing which would be required to publish so voluminous a report. I believe there is no member of this House of Delegates but what has listened very attentively to this reply to the report of the chairman of the Council. It seems to me it is one of the most valuable papers ever presented to this House of Delegates. (Applause.) And although I appreciate the extent of its publication, what are publications for except to bring to the attention of the profession all sides and from all angles the opinions of the controversy that has been disturbing our harmony for years? I therefore hope that the amendment offered by Dr. Corwin will be lost.

Dr. Weld, Rockford: There are approximately 6,100 members of this Society who are interested in the State Board of Health question, and of that number only a small representation is here, and I believe those who are not present should be able to read both sides of the controversy. Therefore, I hope the amendment will be lost.

Dr. J. V. Fowler, Chicago: As I view the situation, I see very little or no good that can be accomplished by the report that has been given by Dr. Black or the reply made by Dr. Webster being published and sent broadcast. Dr. Black has already stated that the governor has consented to reorganize the State Board of Health, and no doubt will do so in a short space of time. The fight on the State Board of Health is a dead issue, and I voice the sentiments of a large number of doctors when I say that this monomania which some of the members of the State Medical Society have of fighting the State Board of Health should be ended. We are getting sick and tired of it, and I think no better action can be taken here to-night than to expunge, as Dr. Corwin has moved, from the records all reference to it, and let us wash our hands of the whole matter and try to secure an efficient State Board of

Health. Then let the State Medical Society turn around and work in the future in harmony with the State Board of Health, which it has not done in the past. (Applause.)

Dr. Corwin: My reason for making the motion is that I feel we have had this primordial argument thrust before us in *THE JOURNAL* from time immemorial, and we are sick and tired of it, and we want our *JOURNAL* run in the interest of the scientific end of the Society and for such economic propositions as shall come before us that we want to listen to. If we pass this motion of Dr. Smith to adopt this report, we adopt the report of the chairman of the Council and accept it as true. I am therefore against adopting a report in which there are a great many things in question brought out by this privileged report of the president of the State Board of Health. There are men here who do not know either one side or the other, but this report is so voluminous and it is such an old story, one we have heard so much of, that I think we should clear the decks and get down to the business of the house, and I sincerely hope that my amendment will carry.

There were cries of Question! Question!

Dr. Henry F. Lewis, Chicago: I rise to a point of order.

The President: State your point of order.

Dr. Lewis: My point of order is, Mr. President, that there are doubtless other gentlemen who would like to talk on this subject, and that no limit to the debate has been fixed by the House.

The President: The point is well taken.

Dr. Armstrong, Christian County: I quite agree with the statements of the gentleman as to this controversy, and that very soon we shall probably have a change in the personnel of the State Board of Health. I am opposed to the adoption of the report as read, but I think that it is a good idea to publish both of these reports, and that the Society, if it is not sufficiently sick of the controversy to put an end to it at this meeting, will do so at the next meeting.

I would like to amend the motion of Dr. Corwin in this way: that we adopt the report of the chairman of the Council expunging that part which alludes to the State Board of Health, but that otherwise it be published in *THE JOURNAL*.

Dr. Corwin: You cannot do that.

The President: If you expunge it, it cannot be published.

Dr. A. M. Harvey, Chicago: I move that the debate on this subject be closed.

Motion seconded and carried.

Dr. Van Derslice: Before I vote on the question of the report of the Council, I desire some information in regard to the publication of *THE JOURNAL*. It has been gossiped around that *THE JOURNAL* has been a costly affair. I have looked through all reports I could find, and I can find no account of what is charged to *THE JOURNAL* and what is charged to the officers of the Society. I would like some information from the editor, if he is here, or from Dr. Black, in regard to the cost of *THE JOURNAL* per member of this Society. This House has a right to demand that information. If Dr. Black has not that information, is there any member present who has the information in regard to the cost of *THE JOURNAL*? If so, it should be given to the House before we can act on the report of the chairman of the Council.

Dr. Black: I think the records of the Society will show the cost of *THE JOURNAL*, and I have read in the report the cost of *THE JOURNAL*. If I remember correctly, it is in the report.

Dr. Black read from the report the following: "The period from Jan. 1, 1913, to May 16, 1913, shows that we received for advertising \$1,546.07. There was paid to the American Medical Association for printing, mailing, etc., \$1,707; paid expenses of the editor's office, \$563; paid for expenses of assistant editor's office, \$671.33, and there was paid to Dr. Baxter's office on exchange \$1. I think that includes all the expenses of publishing *THE JOURNAL* as far as I know.

Dr. Van Derslice: I understand it costs \$750 per month to publish *THE JOURNAL*.

Dr. Black: It costs more than that because the honorarium of the editor is not included.

Dr. Van Derslice: How much is the per capita cost per annum, so that we can have it in the annual report?

Dr. Black: About 85 cents per capita.

Dr. Van Derslice: Dr. Parkes will give some information in regard to the cost of *THE JOURNAL*.

Dr. Charles H. Parkes, Chicago: I had access to the vouchers as presented to the Auditing Committee, and for a year's issue of *THE JOURNAL* the bills footed up \$10,673.05 as the cost of running *THE JOURNAL*. Advertising received for *THE JOURNAL*, as on the books of *THE JOURNAL* was \$4,167.98. The books of the Treasurer showed that there was \$500 not paid into the Treasury, which would mean that was dead space and was filled up by advertising not paid for. I did not figure out the 25 per cent. com-

missions paid to some advertising concern for securing advertisements. But the net loss of THE JOURNAL to the Society is over \$7,000.

THE JOURNAL cost per member \$1.65. The Society's dues are \$2; \$1 of the dues is set aside for a special fund. That makes about \$2.15 already spent by the Society out of \$2 it receives every year. That does not include the expenses of the Secretary's office, expenses of the councilors, expenses of the President's office, expenses of the offices of the various organizations or sundry expenses.

Dr. Black: I cannot tell just where the error is in the gentleman's figures, but there must be an error. We have not had more than \$1.60 for all expenses, and we have accumulated more than \$10,000. We could not do that out of \$1.50 per member. The Council will furnish you at the next meeting of the House of Delegates information in detail. There is an error in Dr. Parke's figures, as anyone can see.

Dr. Parkes: The figures were taken from the signed vouchers.

The amendment of Dr. Corwin was then put and carried.

The original motion of Dr. Smith, as amended by Dr. Corwin, was put and declared carried.

President Nickerson presented the following report to the House of Delegates:

THE PRESIDENT'S REPORT

To the House of Delegates:—Last May, on being inducted into the office of president, I made the following remarks, that in the state there were 10,000 registered physicians; on the roll of the State Medical Society there were 5,600 names; that in order to be the first state in the Union we would have to gain 1,286 new members and to be the first in membership in the American Medical Association, 221 new members. I recommended that an organizer be placed in each district, and that THE JOURNAL be sent the current year to every registered physician.

When this matter was brought before the Council, they thought this expenditure would be too great for the uncertain results. Later in the year, at our request, the American Medical Association placed several organizers in the field without expense to the State Society. I have responded to the call of twenty-five component societies, reading twenty-six papers, besides talking on organization at most of their meetings. Due to a previous engagement, I was unable to respond to one call, a joint meeting of Bond and Fayette counties.

I have attended all the Council meetings, ten in all. I have carried on a systematic correspondence with the secretaries of the component and branch societies, writing about 1,000 personal letters besides sending out 2,000 circular letters. I have expended during my term of office, in the interest of the Society, \$373.28. I have had two interviews with the governor pertain-

ing to the reorganization of the State Board of Health.

During the current year we have enrolled 920 new members in the State Society, which include reinstatements. In the American Medical Association there have been added 724 new members from the roll of the State Society; for various reasons 265 have been discontinued, leaving a net gain of 459 new members, making our Society the first as to membership in the American Medical Association, providing New York has not been asleep the past year.

I have two important recommendations: first, that the Ninth District be divided, creating two districts with one additional councilor. This district is entirely too large for one councilor to give the personal attention that is needed; second, that Cook County be given an additional councilor. To do this, it will necessitate an amendment to the constitution by inserting eleven instead of nine in Section 1, Article VI.

As stated by the Secretary, every county in the state has a medical organization.

I desire to thank all the members for the aid extended in the work of organization, especially our efficient State Secretary, Dr. E. W. Weis, Dr. Carl E. Black, chairman of the Council, the other councilors and the secretaries of the component societies.

It was moved that the report of the President be accepted and placed on file.

Motion seconded and carried.

Dr. Mammen, Bloomington: The hour is getting late. The Committee on Education has a report that can be distributed to each delegate to read, so that it may be acted on later, and it will save time if we may have that privilege.

The President: If there is no objection, the report will be distributed at this time.

Dr. J. W. MacDonald, Aurora, read the report of the Committee Appointed to Audit the Accounts of the Society as follows:

REPORT OF THE AUDITING COMMITTEE

Your committee appointed to audit the accounts of this Society begs leave to report that they met pursuant to the call of the chairman; that they went over the books, vouchers and checks of the Secretary and Treasurer, and find the same to be correct in every particular.

J. W. MACDONALD,
W. M. THOMPSON,
ALBERT W. SEIDEL,
J. W. PETTIT,
W. H. CURTIS.

It was moved that the report be adopted and placed on file.

Motion seconded and carried.

Dr. J. Whitefield Smith, Bloomington, presented the following reports:

Your Auditing Committee hereby desires to report that the editor's books have been examined and found to be correct.

J. WHITEFIELD SMITH,
FRANK C. SIBLEY,
J. A. MARSHALL.

Your Auditing Committee appointed to audit the Secretary's books hereby desire to report that the books have been carefully examined and are found to be correct.

J. WHITEFIELD SMITH,
FRANK C. SIBLEY,
J. A. MARSHALL.

It was moved that these reports be accepted and placed on file.

Motion seconded and carried.

Dr. A. M. Harvey, chairman, read the report of the Committee on Public Policy, and moved its adoption with the resolution accompanying it.

Motion seconded.

REPORT OF THE COMMITTEE ON PUBLIC POLICY

To the House of Delegates, Illinois State Medical Society:

PUBLIC LECTURES

At the last session of this society, a plan for teaching social hygiene and other health topics was approved. Notices of the action taken and other articles, urging the component societies to follow the plan, were printed in THE JOURNAL of this society; in addition personal letters were sent to each county secretary, yet but few societies apparently have shown any interest in the subject. While lectures and talks given by a few members of this society have been uniformly of a high class, they have not been extensive enough to secure the desired results.

The committee, however, believes the plan should be continued, and recommends that the society, through one of its standing committees, or through a special committee for the purpose, in conjunction with component societies, cooperate with the lecture bureau of the American Medical Association, so that our people may be properly instructed on matters of social hygiene, public health and sanitation, and the progress and present status of modern medicine, with special reference to the benefit accruing to civilization and society from the investigation and discoveries of the medical profession.

Such a course, we believe, will tend to inspire greater confidence in the minds of the laity, as to the unselfish motives of organized medicine, silence unjust criticism and intrench the physicians in a stronger position for still greater good in the community.

INSURANCE AND CASUALTY COMPANY'S FEE BILL

During the past year, as well as in previous years, there has been considerable friction over the question of fees between the members of this society and certain insurance and casualty companies.

To overcome this unpleasantness, your committee suggest that the society, through its council, with the cooperation of members of the society, familiar with insurance and casualty medical services, and also with the representative of the insurance and casualty companies, establish a fee table that may be used as a basis for professional services; having one in mind that will be mutually satisfactory, both to physicians and insurance and casualty companies, but not losing sight of the fact that the physicians and surgeons should be fairly paid for their services. We wish also at this time to call attention to the fact that our laws contemplate that the poor of this state shall be cared

for by general taxation, and we see no reason why the physician should continue doing work gratuitously for municipalities, counties and public institutions financially well able to pay for same.

OBJECTIONABLE BILLS BEFORE THE ILLINOIS LEGISLATURE

Concerning the objectionable health bills now before the Illinois legislature, which, if passed, we believe would permit improperly prepared men to treat the sick and to trifle with human life, we voice our disapproval and urge our senators and members of the legislature to defeat them. We call special attention to the osteopathic bill (House Bill No. 229), the optometry bill (House Bill No. 299) and the surgeons' bill (House Bill No. 467), as presented, all of which are detrimental to the medical profession and the welfare of our people. We wish to recommend, however, the vital statistics bill (Senate Bill No. 313, now in the house) and Senator Harburgh's bill (Senate Bill No. 481, now in the house), providing for the elimination of advertising quacks.

In this connection we believe it proper and opportune to ask that hereafter the members of this society, irrespective of political affiliation, stand together as a unit when members of the state senate and legislature are to be elected and lend their support only to those men who give assurance either by past record or pledge that they will support health laws only that tend to raise the standard of those treating the sick, to conserve the health of the individual and to promote the good of the state; at the same time interfering with none of the constitutional rights of the patient or of the practitioner. There should be one gateway only, for those treating the sick, namely, through the permission of the State Board of Health, in accord with the statutes of the state. Special privileges should be given to no school or sect of medicine, if the health of our people is to be safe-guarded.

SALARIED AND FULL TIME SECRETARY FOR THE ILLINOIS STATE MEDICAL SOCIETY

The work of the secretary is increasing from year to year; the needs of the society and the individual member require constant, diligent and painstaking work. Subjects of vital interest to the profession are constantly arising. We cannot long ask a busy doctor to do this work for nothing, and while we do not recommend any action at the present time, we do wish to suggest to the members of the society, that very soon it may be desirable to have a salaried secretary, who can devote all his time to the interest of the Illinois State Medical Society and its members.

OWEN BILL FOR NATIONAL HEALTH DEPARTMENT

Your committee approves of the Owen bill, now pending before congress, providing for a national department of health, and recommend that a specific resolution, endorsing the bill, be adopted by this House of Delegates and that the secretary of this society convey this information together with the resolution to Senator Owen, the author of the bill, and to the House of Delegates of the American Medical Association; also that Senators Sherman and Lewis, and the entire congressional delegation from Illinois, be informed of the action of this society and be requested to vote for the bill.

RESOLUTION COMMENDING BILL AND INSTRUCTING
DELEGATES TO THE A. M. A.

The Illinois Medical Society instructs its delegates to the American Medical Association to support the bill for a national department of health, and as a means thereto to oppose and denounce all acts of trustees and other officials of the society in opposition to such bill, either by direct opposition or by feeble support or advocacy of measures, the object of which action is to harm the cause of such bill.

Dr. Jacob Frank, Chicago: There are a great many who do not understand the surgical bill which has been brought before the legislature, and I would like to explain that this bill is for the purpose of standardizing surgery. There are some practitioners who have an idea that surgeons are forming a trust, but that is not the case.

Dr. Curtis: I rise to a point of order.

The President: State your point of order.

Dr. Curtis: The gentleman is not talking to the subject.

The President: Dr. Harvey, was there anything in your report about the surgical bill?

Dr. Harvey: Yes, sir.

The President: The point of order is not well taken. Proceed, Dr. Frank.

Dr. Frank: This bill will not interfere with anyone who is doing surgery to-day, but it is a bill for the future surgeon. We all know that surgery is being done by men who ought not to do it. There is a great deal of surgery being done in Chicago by men who are not qualified to do it. The men who have formulated this bill have no idea of forming a trust. Is there a man who can say that men like Dr. Murphy, Dr. McArthur and Dr. Ochsner are looking for any more business?

I would like to move as an amendment to this report that the words "surgical bill as presented" be inserted.

Dr. Harvey: I accept that amendment, and will insert those words.

The motion to adopt the report of Dr. Harvey, as amended, was carried.

Dr. Charles S. Baeon, Chicago, chairman, presented the report of the State University School Committee, as follows:

REPORT OF THE STATE UNIVERSITY SCHOOL
COMMITTEE

Year after year the Illinois State Medical Society has by resolutions and through committee endorsed the establishment by the state university of a medical department.

At the last meeting of the Society the House of Delegates passed resolutions pledging the Society to "the policy of adequate appropriations for the development by the state university of the work in public health, medical research and medical education," and authorizing the president to appoint a committee of one from each county to urge on public attention, on the legislature and on the university trustees the necessity of making provision for these needs.

On the first of December President Nickerson appointed a committee whose names were published in the March number of THE JOURNAL.

At the time of the adoption of the resolutions the state university had no medical department, since the university had been compelled to close its medical school owing to lack of funds consequent on the failure to obtain legislative appropriations, which although granted by the legislature, were thrown out by the action of the supreme court on a technicality.

Whether a department should be located in Urbana or in Chicago, was a question not considered by our Society. The committee assumed that any plan adopted by the university trustees should receive its endorsement.

A committee acting for the alumni of the medical school of the University of Illinois proposed to the university trustees to acquire the property belonging to the College of Physicians and Surgeons in the city of Chicago and donate it to the university on condition that the latter would reopen its medical school in the plant belonging to the College of Physicians and Surgeons. The offer was accepted and the stock was acquired and the property deeded to the university on January 31 of the present year. The trustees on Feb. 12, 1913, directed the president of the university to reopen the medical school in the property thus acquired. The plant was an outright gift to the university, subject to the mortgage and bonded indebtedness amounting to \$245,000. The trustees evidently consider that they have obtained a substantial equity by the acceptance of this property and they have certainly secured a well located and valuable plant for medical work.

The trustees have begun a plan for the future of the medical department. They have announced an advance in the standard for entrance, being one year of college work in the autumn of 1913 and two years in the autumn of 1914. They have incorporated in the university budget a request for an appropriation of \$100,000 a year for the maintenance and extension of the school. Your committee has undertaken to assist in securing this appropriation by getting support from members of the legislature and assisting at the hearings before the appropriation committees of the senate and house. They have also tried to get the help of the press and the public.

The appropriation has met the same opposition as was met by similar efforts in former years. The Homeopathic Society, through its president and attorney, has objected that the state should not compete with existing medical schools which are furnishing as many physicians as are needed. They also claim that the property donated to the university is encumbered with a debt equal to its value. They also propose that the state engage in medical research rather than in medical education. We have met these objections by

a letter to the *Chicago Daily News* of May 12, which Dr. Corwin has incorporated in the report of the Committee on Medical Education.

The state eclectic society has also passed a resolution opposing the appropriation unless the university will agree to teach eclectic materia medica, therapeutics and practice. The League for Medical Freedom has shown considerable interest in the matter and some prominent members of it have exerted themselves strongly against the appropriation. Northwestern and Rush Medical have given much valuable aid in support of the appropriation. Some of the members of two or three other schools have cooperated with the homeopaths and other opponents in objecting to the state university school.

The appropriation for the university has not yet been reported from the committee but will probably be acted on within a few days. In the present state of the matter it seems desirable that the committee be continued until after action is taken by the legislature and we therefore ask that the committee be continued.

C. S. BACON, Chairman.

The President: You have heard this report. What will you do with it?

Dr. Van Derslice: I move that the House concur in the recommendations of the committee, and that the committee be continued.

Motion seconded and carried.

On motion of Dr. Fowler, Chicago, the House then adjourned until 8 a. m. on Thursday.

MAY 22, 1913—SECOND MEETING OF THE HOUSE OF DELEGATES

The House of Delegates met at 8:40 a. m., and was called to order by the President.

The President: I recognize Dr. Taylor. If the House has no objection, we will have the doctor make a statement at this time.

Dr. L. C. Taylor, Springfield: As chairman of the Legislative Committee, I have a resolution which represents a telegram that is in Springfield now, ready to be delivered as soon as this resolution is adopted, and I have asked the indulgence of the House to present it at this time.

The resolution is as follows:

The Illinois State Medical Society in annual session with six thousand active members solicit the continuation of a uniform standard of medical education and respectfully protest against the passage of osteopathic and optometry bills, and ask your support of vital statistics bill. Resolution embodying unanimously adopted.

L. H. A. NICKERSON, President.
E. W. WEIS, Secretary.

At the conclusion of the reading of the resolution, Dr. Taylor said: I offer that and ask the House of Delegates to adopt it.

It was moved that the resolution be adopted.

Motion seconded and unanimously carried by a rising vote.

The Secretary called the roll and 99 delegates responded.

The President: We will listen to the reading of the minutes of the previous meeting by the Secretary.

The Secretary read the minutes.

The President: You have heard the reading of the minutes. Are there any corrections? If not, they will stand approved as read.

The election of officers being next in order, the President appointed as tellers Drs. Fowler, McClanahan and Chapin.

Dr. Charles S. Nelson, Springfield, nominated Dr. A. L. Brittin, Athens, for President.

The nomination was seconded by Dr. E. Mammen, and on motion of Dr. O'Byrne, nominations were closed and the Secretary instructed to cast the unanimous ballot for the election of Dr. Brittin, which he did, and Dr. Brittin was declared duly elected.

Dr. J. W. Van Derslice nominated for First Vice-President Dr. Sumner M. Miller, Peoria, and on motion of Dr. Bettson, nominations were closed and the Secretary instructed to cast the unanimous ballot for Dr. Miller, which he did, and Dr. Miller was declared duly elected.

Dr. W. O. Ensign nominated Dr. D. G. Smith of Elizabeth for Second Vice-President.

On motion of Dr. J. H. Stealy, nominations were closed and the Secretary instructed to cast the ballot for Dr. Smith, which he did, and Dr. Smith was declared duly elected.

Dr. Frank Buckmaster, Effingham, nominated Dr. W. H. Gilmore of Mt. Vernon for Secretary.

The nomination was seconded by Dr. A. M. Corwin.

Dr. W. O. Ensign nominated Dr. E. W. Weis, when Dr. Weis arose and said:

I want to thank Dr. Ensign for the nice words he has said, and to acknowledge my deep appreciation of the same. We are old friends. We have met together often, and I know he has spoken from his heart, but I have given the question of my possible candidacy much thought recently, and I have come to the conclusion that this is the time for me to decline reelection. I have served the Society with no mean ability, I hope, as you know, for the last sixteen years. I have grown gray but younger in its service; have assisted in its growth from weak infancy to full maturity. It now is placed in the front rank of state societies, where I hope it will always re-

main. My severance with the official life of this Society will come with pain, but when once over, when once accomplished, will be a matter of relief and quiet. I hope my work has been well done and has been satisfying to those principles to which I have given the most energetic years of my life, and it has been a work of love really, not a service, and I really believe you appreciate it. I retire to the ranks of a private with the hearty wish for its continued prosperity and shall promise to continue my fealty and devotion in the future as in the past.

Gentlemen, I want to thank you for the many kind things you have always said of me, for I fully believe at heart you are all my friends and well-wishers. Once again, I thank you from the bottom of my heart, and may God bless and keep from harm the Illinois State Medical Society. (Loud applause.)

It was moved that the Secretary be instructed to cast the vote of the Society for Dr. Gilmore as the next Secretary.

Motion seconded and carried.

The Secretary cast a ballot for Dr. Gilmore, as instructed by the House, and he was declared duly elected.

Dr. Charles C. O'Byrne: Before we proceed to elect a Treasurer, I wish to speak a word of appreciation of the services of Dr. Weis as Secretary of this Society. He has devoted sixteen years of arduous toil to good purpose, and I move that a rising vote of thanks be extended to him for the services he has rendered to this Society.

This motion was seconded by several and carried unanimously.

Dr. Weis: All I can say is, I thank you—I really do; but as I said before, it is from the bottom of my heart, and that is all I can say.

Other officers nominated and elected are as follows: Treasurer, Dr. A. J. Markley, Belvidere.

Before the election of councilors, Dr. Carl E. Black, Jacksonville, presented his resignation as councilor as follows:

To the House of Delegates, Illinois State Medical Society. Gentlemen: I hereby tender my resignation as councilor of the Sixth District and request that it take effect at once.

Dr. L. G. Burrows, Madison County: This comes as a surprise. Dr. Black has been in the harness for years and we must take cognizance of his resignation. I therefore move that his resignation be accepted.

Motion seconded.

Dr. Frank P. Norbury, Springfield: I wish to add to that an amendment as follows:

In the world's work there is always inspiration in the unfinished business, much of which cannot be completed until the heroic possibilities assure fitness of time, place and persons to complete it. The Illinois State Medical Society in its call for new chivalry some years ago, a chivalry that would harmonize its efforts in its dealings with human ideals, brought to its banners a man who placed professional ideals and honor above the sordid standards of a decadent commercialism, a man of subservient spirit, indefatigable, soldierly and ambitious in the spirit of service; a kind of a man who commands respect, whose intentions were and are of the kindest toward his fellow men; a man who despises invectives and who advocated policies which were creative and which found no consolation in inglorious peace; nor catered to the inanities of fashion. In him is to be found the heroism of war, the unselfishness of service and the militant and missionary spirit of the best ideals of professionalism.

In retiring from his years of activity in honest endeavors, on behalf of this society, and while this society is waiting to catch up with the pace he has set in the ideals of professional advancement, it is fitting on this occasion that the following resolutions be offered and placed in the minutes of this deliberating body as a testimonial to the services rendered the Illinois State Medical Society by Dr. Carl E. Black of Jacksonville, Councilor.

WHEREAS, Dr. Carl E. Black has seen fit to tender his resignation as Councilor from the Sixth District, and

WHEREAS, his severance of the official relations which during the useful years of his service have so closely identified him with the constructive policies and honest endeavors of this, the Illinois State Medical Society; and

WHEREAS, his unselfish devotion to duty, his prodigality of service, his indefatigable energy in developing and maturing relevant policies; his personal pride in the honorable professionalism of this organization, have marked him as a practical idealist, the standards for which he stood being always for the best; therefore, be it

Resolved, That the House of Delegates of the Illinois State Medical Society here assembled, express their appreciation of his work, confidence in his personal integrity and thankfulness for the highly useful, honest and conscientious endeavors and service rendered by him during

all of the years of his official connection with this society. Further, be it

Resolved, That we recognize Dr. Black's services by inscribing these resolutions in the minutes of this meeting, as a perpetual reminder of his sterling worth and devotion to the best interests of the Illinois State Medical Society.

The amendment was seconded and accepted and the original motion as amended was adopted by a rising unanimous vote.

The other councilors elected are as follows:

Councilor of the Fourth District, Dr. A. H. Harp, Moline; Councilor of the Fifth District, Dr. C. S. Nelson, Springfield; Councilor of the Seventh District, Dr. F. A. Burkhart, Effingham; Councilor of the Sixth District, Dr. Charles D. Center, Quincy.

The following were elected as delegates to the American Medical Association: Dr. Andrew M. Harvey, Chicago; Dr. Arthur M. Corwin, Chicago; Dr. John A. Koch, Quincy.

When it came to the nomination and election of alternate delegates to the American Medical Association, Dr. Andrew M. Harvey made the following motion:

I move that the alternates to the American Medical Association elected to-day, in the event of a vacancy, be seated in the order in which they are nominated and elected.

Motion seconded.

Dr. C. S. Nelson, Springfield: If this election had been decided by ballot, I would favor that motion, but inasmuch as each of the three candidates has received a unanimous vote, it looks unfair for the man at the tail end.

I move as an amendment that each delegate have the privilege of selecting his own alternate out of the three elected. (Motion not seconded.)

The motion of Dr. Harvey was put and carried.

The following were elected alternate delegates to the American Medical Association: Dr. J. W. Van Derslice, Oak Park; Dr. A. Augustus O'Neill, Chicago, and Dr. B. M. Ottis, Springfield.

The following members of committees were elected: Committee on Public Policy; Chairman, Dr. Andrew M. Harvey, Chicago; Dr. O. B. Edmonson, Clinton; Dr. Charles H. Parkes, Chicago.

Committee on Medical Legislation: Chairman, Dr. L. C. Taylor, Springfield; Dr. J. H. Bacon, Peoria, and Dr. J. V. Fowler, Chicago.

Member of the Committee on Medical Education for three years: Dr. F. A. Buckmaster, Effingham.

The Secretary: I move that the election of the officers of the County Secretaries' Conference be ratified, as well as those that will be elected by Sections 1 and 2.

Dr. Corwin: I second the motion.

Carried.

The President: What is the next order, Mr. Secretary?

The Secretary: The next order is fixing the per capita tax for 1913.

The President: What is your pleasure, gentlemen, in regard to this matter?

It was moved that the per capita tax remain the same as for the previous year, that is \$2.00.

Motion seconded and carried.

Dr. Bell, of Macon County, extended an invitation to the Society to meet in the garden spot of the world next year—Decatur.

Dr. Cooley, of Danville, seconded Decatur as the next place of meeting.

Dr. Harvey: I move we accept the kind invitation to meet in Decatur next year, and that the secretary be instructed to cast the ballot of the House for the same.

The secretary did so, as instructed, and Decatur was declared to be the next place of meeting.

Dr. E. Mammen: I ask for unanimous consent to present the report of the committee on medical education at this time. Copies of the report were handed out to you the other evening, and I presume you have read it. If you are not in favor of it, vote against it.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

The chairman of the Chicago Medical Society Council Commission on Medical Education, Dr. A. M. Corwin, a member of your state committee, makes the following contribution to our report, though unofficially, so far as that commission is concerned, since the formal statement of that body must be made to the Council of Cook County Medical Society later, before it is given publicity elsewhere. It is, however, presented as a part of this report of your committee.

The commission has only partially completed its work of inspecting the local colleges because of the elaborateness of the plan outlined in its printed schedules of method. The inspection is still in progress. However, numerous educative meetings have been held. The latest was a conference April 25, 1913, of the commission with members of the Council of Cook County Medical Society, the State Board of Health, the Chicago Board of Health, the deans of the various medical colleges, the State Society Commission on Medical Education, the members of the Council of the

state society, the president and secretary of the state society, together with the officers of the State and Cook County Homeopathic societies, and the Council on Medical Education of the American Medical Association. The object of the conference was to discuss the various legislative questions involved in our practice act, based on a report of the subcommittee of the Commission on Legislation, of which Dr. George W. Webster is chairman. His summary of the answers to the questionnaire formerly widely sent by the commission to those interested in medical education was read, and a live discussion followed. It was plain from this conference that public sentiment of the medical profession on the matters in question must be obtained by further meetings of this sort, at which the numerous interests are represented. The need of such discussions for the education of the profession and the crystallization of ideas is evident, and continued effort along this line to bring conflicting elements together and draw out free expression is to be encouraged, for it is just as important to handle these economic and legislative questions in open meeting as it is to discuss purely scientific matters.

Several of the subcommittees of the commission have rendered efficient service and accumulated valuable data.

It is apparent that there are several medical colleges in Chicago which are lax in their conformity with the state law regarding requirements for admission to the medical course, and several of these institutions are shipshod in their system of keeping record of these matters.

Others, again, have excellent methods of checking up applicants, and filing this information. But some uniform perfected plan, if adopted by all the colleges, would greatly facilitate inspection and make for unity of results.

A further just criticism may be based on the fact that applicants for entrance to medical courses in Chicago are qualified by examination held by representatives of the universities with which the medical schools are connected, though such applicants have never been in attendance on the universities in question. This practice has been very generally in vogue for years, but where medical students' fees are an important asset, the opportunity under this system for favoring the medical department by the examining representatives of affiliated departments of the same institution is large, and the temptation to pass lightly on entrance qualifications ever present.

To correct such evils it is suggested that either the State Board of Health or other independent, unaffiliated, unprejudiced body, constitute a board of examiners, empowered and directed to pass on all applicants before they are admitted to any undergraduate medical college or school in the state. These authorities issuing all certificates of premedical fitness, based on proper tests, in accord with the minimum requirements of the state law, and keeping on file complete records, open to public inspection, could maintain better surveillance over all medical colleges alike and insure a more uniform enforcement of the law pertaining to entrance requirements than at present.

It is recommended that the state law be amended to meet this suggestion.

Any university is to be commended for doing extension work, but should be criticized if it grant admis-

sion to its halls on credits secured by examination *in absentio*, which leaves an open door to fraud. We understand that such also has been the practice in Chicago and elsewhere. This, obviously, should be corrected.

Even superficial observation forces the conclusion that every medical college to-day must be amply endowed or receive adequate support from a university or from the state, in order to properly educate physicians. In other words, no medical college can fairly meet the requirements of the present day on an income from student fees alone.

In view of the fact that our state university now has a medical department, it behooves the state legislature to grant the \$100,000 needed to begin the task of placing that medical school on a firm foundation of efficiency, that Illinois may have no cause to apologize to her sister commonwealths in this matter.

In this connection, we quote in full the excellent article of Dr. C. S. Bacon, published in the *Chicago Daily News* of May 12, in answer to an earlier editorial in the same paper.

"THE STATE AND MEDICAL SCHOOLS"

"The *Daily News* has opposed the appropriation for the medical school of the state university on the following grounds: (1) That the state will have to assume indebtedness held against the college, which some have stated equals the full value of the property; (2) that there are now enough doctors in Illinois and there is no reason for the state to make more at the public expense; (3) that the state should not compete with existing medical schools; (4) that the state should engage in medical research rather than in teaching medical students.

"On behalf of the Illinois State Medical Society, which embraces all of the county societies of the state, and includes 5,500 members, and which has always indorsed the establishment of a state university medical school, allow me to answer these objections.

"1. In regard to the value of the property, uninterested appraisers have estimated it to be worth \$140,000 more than the indebtedness. Should the state consider the property worth as much as or more than this indebtedness, it can acquire a clear title by paying off the mortgages. If it does not care to do so, however, it can occupy the property as long as it likes by paying the interest, \$14,320 a year, and assume no further obligations for the bonds.

"2. While we agree that there is 'no dearth of doctors in Illinois,' still we consider the quality, not the quantity, as the important thing. The title of doctor of medicine should be a guaranty that its holder is well trained and competent to care for the life and health of those who consult him. Many doctors have been graduated without as good training as could be obtained in the present state of medical science. The best medical education is none to good, but it is expensive and cannot be furnished by private schools, which depend on the fees of students.

"3. The state needs public health officers. Every town and county in the state should have a trained physician as sanitarian to take charge of its health problems. The state should prevent the spread of contagious disease, and protect the food and water supplies against contamination. Private medical schools cannot be required to furnish the instruction

that is needed. The state should not shift the responsibility in this matter on to private schools.

"4. In regard to medical research, history shows that nearly all discoveries in medicine have been made by teachers in the medical departments of universities. Perhaps one of the best examples is the discovery by Semmelweiss in the Vienna University of the contagiousness of puerperal fever and the way to prevent it. Another is the discovery by Prof. Lister of the way to prevent wound infection, which has made possible the great developments of modern surgery. Anatomy, physiology, physiological chemistry and pharmacology have likewise been developed by university teachers. Virchow, the founder of modern pathology, was a teacher in Berlin. Schmiedeberg, the greatest student of the action of medicines, is a teacher in Strasburg.

"Both in the clinic and the laboratory, teaching contact with medical students is a great stimulus to the investigator. Likewise, the student will profit by contact with the original worker. A teacher who is content to retail the findings of others or act as quiz master or recitation hearer, and has no ambition to study original problems and impart his discoveries, is not the ideal teacher in a medical school. When a student comes in contact with an investigator he is apt to acquire an interest in medical problems and may become a research worker himself. If all research were separated from medical schools, the loss to medical science would soon be apparent. We believe that no intelligent medical teacher would wish such a separation of medical teaching and medical research. The advocacy of such an experiment by the state would meet little favor from those who have given intelligent study to the subject.

"Of the thirty-seven states which have state universities twenty-six have medical departments. This shows the tendencies in this country. Both the University of Michigan and the University of Minnesota spend over \$200,000 a year on their medical schools and make liberal provision for both laboratories and clinics. The trustees of the Illinois State University have given the plan for a medical department their unanimous support. It has received the indorsement of the two best medical schools in Chicago and of the physicians of the city and of the state. It has been approved by most of the press. We believe that the Daily News has been misinformed concerning the school and that its opposition is unfortunate and not justified.

"C. S. BACON,

"Chairman of the Illinois State Medical Society Committee on the University Medical School."

No argument would seem necessary to prove that the homeopathic fraternity should be equitably recognized in the organization of this state university medical school. As long as it is not so recognized, its opposition to that school through the fighting of appropriations and otherwise, is readily understood. Beyond this we can see no good reason why any medical college should seek to hamper the success of the university medical school, if such college is squarely committed to the policy of steady progress toward improved plans, higher ideals and better work, to parallel the spirit of the age.

To-day in all the Chicago colleges much is to be desired in the buildings, equipment, balanced adjustment of curriculum, and character and organization of teaching staff, as well as amount of revenue for

carrying on the expensive business of conducting a medical college. But a glance at any of these recognized institutions will make evident the great improvement that has taken place in medical teaching compared with that of even a decade ago.

And, on the whole, the real desire amongst them is for improvement.

This betterment is due fundamentally to the progress which has been made by medicine and surgery in all their branches. An awakened scientific spirit has pervaded the whole profession, and that profession, in organized fashion, has demanded better undergraduate training. Certain medical schools and colleges have been quick to respond and their influence, reacting on the whole body of practitioners, has stimulated its interest in a better system of undergraduate and post-graduate instruction.

The various activities of associated State Board of Health, the Association of American Medical Colleges, independent examining boards, the Council of the American Medical Association, the Carnegie Foundation for the Advancement of Learning, and numerous committees on medical education, are logical expressions of this awakened scientific spirit, insistently demanding recognition in concrete form.

Taking it for granted, as a general proposition, that an institution whose graduates persistently year after year show a high percentage of failure before state boards is either giving inferior or inadequate instruction or admits low-grade students to its halls and that a low failure percentage indicates good training, a high class of students or both, the following deductions are made from the statistics of the American Medical Association Council on Medical Education, published in *The Journal* of the American Medical Association, May 25, 1912. The figures here given are ours in so far as the statistics from which they are computed invite the normal use of arithmetic. Parenthetically, it may be said that the results of state board examinations cannot be taken as absolutely conclusive in every case, owing to the different methods in vogue in the several states, and the chances for favoritism. However, a large number of these boards, including that of our own state, are now doing such careful work, and the results in general during a series of years have been so nearly uniform for the colleges, either indicating improvement or otherwise, that the figures are highly significant and are a fair criterion by which to judge of the training which is being given and the quality of our medical college graduates.

The figures cover the results of the state board examinations and refer in these notes to the graduates of 1911 who were examined in that same year. They occupy the last columns on pages 1592 and 1593, Table C.

The number of 1911 graduates examined during that year from the ten states having an output of 148 students or more are as follows:

Illinois (stands first in this respect)	473
Pennsylvania	467
New York	336
Maryland	298
Missouri	265
Tennessee	222
Ohio	183
Kentucky	183
Georgia	158
Massachusetts	148

These ten states rank in *excellence* as follows, judged by the percentage failure of their students:

1. Pennsylvania, with seven schools, six of them in Class A, and a total output examined of 467, had the very low failure percentage of 2.3 per cent. Pennsylvania is, so far, in the lead of these ten states, each handling a considerable student body.

2. Ohio, with seven schools, three of them in Class A—total output examined, 183; percentage failure, 5.4.

3. Maryland, with five colleges, four in Class A—total output examined, 298; percentage failure, 11.41.

4. Massachusetts, with four colleges, three in Class A—total output examined, 148; percentage failure, 11.5.

5. Georgia, with five colleges, none in Class A—total output examined, 158; percentage failure, 13.9.

6. Illinois, with eleven colleges, four in Class A, 3 now extinct and two not now recognized in Illinois—total output examined, 473; percentage failure, 15.8.

7. New York, eleven colleges, nine in Class A—total output examined, 336; percentage failure, 17.6.

8. Missouri, eight colleges, three in Class A, one not recognized—total output examined, 265; percentage failure, 17.7.

9. Kentucky, two colleges, one in Class A—total examined, 183; percentage failure, 20.

10. Tennessee, seven colleges, one in Class A—total output examined, 222; percentage failure, 32.4.

For these ten states the average percentage failure was 14.8. Illinois, therefore, with her percentage failure of 15.8, is a little below the average grade of the ten states, and sixth in the list of excellence, New York, Missouri, Kentucky and Tennessee making a poorer showing than Illinois, and Pennsylvania, Ohio, Maryland, Massachusetts and Georgia a better one.

Tennessee, while turning out of two colleges sixty-three men, only nine of whom failed, a percentage failure of 14.2, on the other hand, turned out of five colleges, with percentage failure, respectively, of 20, 37.5, 43.3, 36.8, 66.8, 159 men, 63 of whom failed, an average percentage failure of 39.6.

From the last revised edition of the A. M. A. Directory are also gleaned suggestions and facts ancient medical history in America.

New York is unique among the states for having harbored the largest number, a total of forty-four medical schools, good, bad and indifferent. Of these, eighteen have been fraudulent, charters revoked or never recognized by the state board, or closed by order of court. The same classification is understood of the institutions mentioned as fraudulent in the following states. New York has now eleven colleges doing business, nine of them in Class A, two lower in the alphabet of virtue.

Missouri is second to New York in the number of medical schools organized within her borders—forty-two in all—four of them fraudulent.

Ohio is third—total, forty-one colleges; existing, six—three in Class A; not in good standing, one; fraudulent, three.

Illinois is fourth, having had a total of thirty-nine; fraudulent, thirteen, all out of business. It should be noted, however, that of these thirteen fraudulent institutions, six were incorporated by one and the same man—Johann Molek, in 1891 and 1892, and never did business, and therefore practically one institution—as

follows: German College of Medicine and Obstetrics, Feb. 19, 1891; German Homeopathic Medical College, Dec. 9, 1891; German Medical College, Dec. 28, 1891; German Academy of Physiatrie Physicians, 1892; German-American Homeopathic College, 1892, and German College of Gynecology, Pediatrics and Obstetrics, 1892. Two others were fathered by J. Armstrong, making in reality a record of only eight fraudulent colleges in Illinois medical history.

Rumor has it that a new school has been recently organized in Chicago on a basis of stock peddled to prospective professors. It has not yet been recognized by the state board. It is fair to say that a review of the past history of medical colleges does not portend either permanence or a high degree of usefulness to any institution thus accoucheured.

Neither the need of the time, the growing demand of public and professional opinion, nor the hope of financial gain justifies the birth of any new medical college in Illinois. Rather a further consolidation of those now existing in the state is desirable. A medical school established to-day as a lever for individual professional preferment, would be altogether unspeakable.

It will be seen from the foregoing facts, figures and comparisons that the much-quoted statement that Illinois is the "plague spot," the worst of places, in the educational universe is not true or just, and therefore should be resented by every loyal son of this state and every lover of truth and champion of fair play anywhere, who is interested in the subject and desired progress. On the other hand, that Illinois should be content that her medical colleges showing, while far better than some of the other states, in many particulars a matter of pride, should remain mediocre in any respect, and that any of the medical colleges of Chicago should be satisfied with the situation, is quite another question.

It is obvious, therefore, that the medical schools of Illinois should not resent the correct figures published from year to year indicating the standing of their graduates—or seek to defend themselves against fancied attacks for low standing, but should rather study the statistics and earnestly seek the causes of a poor showing before state examining boards, and labor strenuously to correct them as soon as possible.

This attitude and effort they owe to their own reputations and to make good their reason for existing in perpetuity. More fundamental than this is the obligation which they owe to their individual students to equip them properly to meet competition. But greatest of all is their responsibility to the public in giving to it those who are to conserve its health, heal its infirmities and add to its usefulness and happiness.

A. M. CORWIN.

15 East Washington Street, Chicago.

Further concerning medical education in Illinois, and the character of Illinois standards of medical education and of the entrance requirements thereto, the committee makes the following quotations from a letter to us written by Dr. George W. Webster under date of May 16, 1913:

"Mr. Abram Flexner in his first report on medical education made in 1910 for the Carnegie Foundation, in speaking of Illinois, said: 'The state law is fairly

adequate, for it empowers the State Board of Health to establish a standard of preliminary education.'

"It is perfectly apparent that critics of the State Board of Health have been reading the Flexner report instead of the state law, as we have such criticism as, 'This makes it necessary for the board of determine the preliminary educational requisite for admission into a medical college.' Nothing could be further from the truth than is this statement and illustrates again the extraordinary want of information of certain critics, and those approving these criticisms concerning the laws governing and limiting the powers and duties of the State Board of Health.

"The preliminary education requisite for admission to medical colleges is not determined by the State Board of Health, but is fixed by law. Section 2 (b) of the Medical Practice Act concerning the point is as follows: 'And provided further that the diploma of an approved high school or equivalent high school having a course of studies requiring an attendance through four school years or a certificate of having passed a satisfactory examination before the state superintendent of public instruction, or like state officers, in the studies embraced in the curriculum of such approved high school shall be considered satisfactory evidence of preliminary education.'

"Furthermore, this is the most illogical, extraordinary and anomalous legislative educational provision with which we are acquainted and is the only educational standard of which we know, either professional or general, which is determined and fixed by the Illinois legislature. This legislative enactment, passed in 1908, has been one of the greatest barriers to medical educational progress in Illinois that was ever erected and the law was enacted by and with the advice and consent of the legislative committee of the Illinois State Medical Society, and neither the officers nor the members of the state medical society, nor its official journal ever offered one word of protest against its enactment nor have they even attempted to secure its repeal.

"Apropos of the history of this movement the following is an exact transcript of the minutes of the meeting of the Illinois State Board of Health for June 20 and 21, 1906:

RESOLUTION RAISING ENTRANCE REQUIREMENTS

"The following resolution was introduced by Dr. Webster and was adopted by the board:

"WHEREAS, The entrance requirements preliminary to the study of medicine are too low, constituting the weakest point in our medical educational system, and

"WHEREAS, The National Confederation of State Medical Examining and Licensing Boards, in regular annual session at Boston, June 4, 1906, unanimously adopted the report of the chairman of the Committee on Entrance Requirements, Dr. George W. Webster, therefore, be it

"Resolved, That the standard adopted by the Illinois Board of Health be as follows:

"1. A high-school diploma from a recognized high school or its equivalent in the form of a satisfactory examination in all the branches usually embraced in the curriculum of a four-year high-school course, said certificate to be either issued or passed on by some designated state official, such as the superintendent of

public instruction, and not by any one connected with a medical college.

"2. Satisfactory documentary evidence of having completed at least one year of not less than nine months of work in chemistry, biology, physics and languages, in either a recognized institution of learning, chartered to confer liberal degrees, or in a recognized medical college having an additional year devoted exclusively to the above subjects, this requirement to apply to all students, matriculating after Jan. 1, 1910."

This action of the board was published in the Bulletin of the board, Vol. 2, No. 3, June-July, 1906, page 81.

This made the standard of entrance requirements of Illinois higher than that of any other state in the Union at that time.

The position taken by the board in its action of June, 1906, concerning entrance requirements was that a good working knowledge of chemistry, biology and languages is a proper and necessary foundation for the study of medicine and that a knowledge of the terms and concepts of these basic sciences is indispensable, because the language and the terms used in medicine originate here in these sciences and not in medicine itself, and time cannot be taken in the medical college to teach them, hence they are not learned or not fully understood. This position we still hold. The low entrance requirement was the weakest point in our medical educational standard then, as it is the weakest point now.

It is our firm belief that the best, surest and easiest way to raise the entrance requirements is to repeal that part of the law which compels the board to accept a high-school education as the highest entrance requirement which it can demand. The State Board of Health has no control over medical colleges except such as grows out of their recognition by the board, and all that the board can do in any case is to give or to withhold recognition. The board is in no way nor in any sense responsible for the existence, the work or the character of unrecognized medical colleges or schools and exercised no control or authority over them. If they exist, as has been averred, and if their work is as has been described, then some legal method of suppression should be attempted and, if possible, secured.

In view of the fact that the minimum entrance requirement in Illinois, the four-year approved high-school course, is below that of many other states, behind which Illinois must not lag, and since this inadequate requirement as fixed in the law by the amendment of 1908 is the chief obstacle to progress in this important matter, your committee recommends that this amendment in question, Section 2-b of the Medical Practice Act, be repealed at the earliest opportunity, so that the State Board of Health shall have power to make such preliminary educational requirements from time to time as shall be necessary to meet the demands of other states. It should be provided, however, that the board shall not reduce the standard below the present one, and since our own university medical department is to require the equivalent of one year of college work in addition to the high-school course after September, 1913, it is obvious that the requirement of the state law should not be below this.

E. P. SLOAN,
A. M. CORWIN,
E. MAMMEN, Chairman.

May 20, 1913.

I move the adoption of the report as printed.

Dr. Corwin: I second the motion.

Dr. Henry F. Lewis, Chicago: I would like to say a word or two on this report. There is one part of this report which some of us object to, and that has been made the major part of the report. It occupies a part of page 4 and page 5 and runs over to page 6. I do not wish to be understood as being opposed to any advanced medical education, for I myself graduated from a school which is second to none in the world, and I believe has at least as high or higher standard than any other in the country. I do not wish to be understood as depreciating the value of higher medical education, but I do wish to protest against the unloading of a considerable lot of junk upon the State of Illinois and upon the University by the attempt which is made by the recommendation by the Bill in the House which is approved by this report. The University of Illinois has taken over the College of Physicians and Surgeons' visible property. The generous stockholders have donated their stock at par value, which is not high, and by so doing the bondholders have obtained assurance that as long as the University of Illinois has charge of the school they would get interest upon their bonds. A great many, if not the majority, of the bonds are owned by the former stockholders. There will be great expense in running such a plant as they have now, and it is not adapted for a medical school very well. It has not been well adapted for it so far, and far less adapted for such a great school as the University of Illinois ought to have if it has any medical school. There is some talk of \$100,000 being appropriated for it by the Legislature biennially, which will not go far. A considerable part of that will go for interest and there will not be anything tangible really owned. The good will of the College of Physicians and Surgeons is of no value to the University of Illinois. In order to get the proper kind of medical school, such as the University ought to have, it ought not to take second rank in the medical schools in the country. It will not require \$100,000, but millions of dollars to do that, and does anybody think that millions can be had from the Legislature of Illinois? It takes millions to make such a medical school as is talked about. A great many are actively interested in this movement, and among them Dr. Bacon, Dr. Corwin and my dear friend, Dr. Cotton. All these gentlemen are good friends of mine. I do not oppose any of their wishes. I

realize the unbiased report of Dr. Bacon's committee, also the unbiased report of the committee of which Dr. Corwin is a member. These reports are excellent. The motives of the members of these committees are of the highest, just as good as mine, probably better, yet they say the faculties of Northwestern and Rush Medical College have been strongly in favor of this movement or of this scheme.

I attended the Committee on Appropriations in Springfield twice within the last few weeks, and the only persons I saw who were actively interested in the appropriation to appear before the committee were Dr. Bacon, the professor of obstetrics in the institution, and President James, for some reason I cannot understand, and my dear friend, Dr. Cotton. I did not see any other members of the faculties of the two institutions named. There was little opposition.

It has been hinted that we of the faculty in the medical department of Loyola University are wrong in our opposition to this movement; that we are afraid of such a great medical school as the University of Illinois will have. That is entirely untrue, and there is no reason for saying such a thing. We are opposed to the taking over of this property in this way and spending the money of the State to pour it into this institution in Chicago which will absorb it. We have been told by some persons directly interested, and one or two gentlemen I have already named, that we ought to favor this thing because of the extremely high grade school Illinois would have. It has been hinted that such a school would diminish greatly the number of students who come to us. I hope the members of this House of Delegates will not consider that I am opposing this movement on any such basis as that. Furthermore, it makes no difference to us. We have in the medical department of Loyola University all the students we can properly take care of and all we want. We are not seeking for a big crowd to fill in. We are doing our best, and we are advancing rapidly. We are doing our best to make the school of as high a grade as possible. Many obstacles are being put into our way by members of this society and members of some committees which have reported at various times before this body and the American Medical Association. The sentiment among the profession is not so unanimous as a great many think. I have had conversations with a great many people who are opposed to this scheme, but very few of them would care to get up and

say they are opposed to a scheme of this kind. It is not opposition to higher medical education.

I move to amend the report by striking out those portions of it I have named under the caption of "The State and Medical Schools."

Dr. A. C. Cotton: The matter presented by my dear friend, Dr. Lewis, has reference to an alleged premeditated or accomplished purchase of some property in Chicago for university purposes. I think it is absolutely foreign to the matter that is presented to us in the report of the Committee on Medical Education. The question, as I understand it, is, Shall the State Medical Society through its council go on record as favoring the request of the trustees of the University of Illinois for an appropriation for a medical department? Unless I am misinformed, the Trustees are unanimous in this request of the Legislature for a moderate appropriation of \$100,000 to build, to promote the department of medicine which that university has established. I believe that there is but very little argument necessary for us to decide whether we are for or against a medical department in the University of Illinois. Any details merely obscure the main question. Surely, it is not for us to decide whether the Trustees of that university are to buy property in this county or that county or this city; whether they are to buy a site or to buy a building or to erect a building. It is their business to decide those questions. The main question before us is, Are we in favor of sustaining the medical department of the State University? (A voice: We are.)

As there was no further discussion, the president put the motion to adopt the report and declared it carried unanimously.

Dr. L. C. Taylor of Springfield, Chairman, read the report of the Committee on Medical Legislation; as follows:

REPORT OF COMMITTEE ON MEDICAL LEGISLATION

The prolonged delay in effecting an organization of the lower branch of the general assembly, postponed the actual work of the legislature about one month later than has been the custom. Consequently, many of the bills that ordinarily would have been disposed of before our annual meeting are yet on the calendar of either the house or the senate. The report of your Committee on Medical Legislation must, therefore, necessarily comprise only the situation as it exists at the present time.

Medical bills of far greater number have been introduced than in any session of recent years. Some of them have decided merit; others are obnoxious and still others find the medical profession hopelessly divided among themselves as to their merits.

The vital statistics bill, which has failed before former legislatures, has passed the senate by a substantial majority, and is now awaiting consideration by the house.

Senate Bill No. 481, introduced by Senator Hurburgh, prohibiting advertising in the newspapers to cure sexual diseases, and a very worthy measure, was passed almost unanimously by the senate. It has not been acted on in the lower branch of the general assembly.

House Bill No. 332, introduced by Representative Medill McCormick, prohibiting splitting of fees by physicians and midwives, was killed in the judiciary committee to which it was referred.

Senate Bill No. 3, entitled an act to provide for the treatment of public intoxication and inebriety; establishing hospital and industrial colony, introduced by Senator Beall, was laid on the table.

Senate Bill No. 18, introduced by Senator Glackin, providing a sanatorium for those afflicted with tuberculosis, is still in the committee to which it was referred.

Senate Bill No. 132, introduced by Senator O'Connor, entitled an act in relation to the state colony for epileptics, passed the senate on April 29. It is on order of the first reading in the house.

Senate Bill No. 245, an act to prevent the procreation of habitual criminals, idiots, feeble-minded and imbeciles, introduced by Senator Womack, is on the order of second reading in the senate.

Senate Bill No. 368, the same as House Bill No. 467, an act to promote the science and art and regulate the practice of surgery, is pending in both houses. This bill provides for a special license to practice surgery. The attention of your committee was not called to this measure and when it came up for hearing before the judiciary committee of the house, no one appeared to advocate its passage. The hearing was accordingly postponed until a later date.

The bill making appropriation for the medical department of the University of Illinois is a part of the general appropriation bill and will come up for consideration among other appropriations under this measure.

House Bill No. 428, is an act to prohibit physicians and surgeons from disclosing information acquired from patients in the course of practice.

House bill No. 229, introduced by Representative Gorman, entitled, an act to regulate the practice of osteopathy in the state of Illinois, is a bill which, if passed, would practically confer on all osteopaths now in practice and those yet to be licensed the right to practice medicine and surgery in all their branches. It received favorable consideration by the judiciary committee. The bill is now on the order of second reading in the house. Neither it nor the optometry bill, which also received favorable report from the committee, has been introduced in the senate.

When the present committee on medical legislation was organized, in order to promote a more thorough cooperation among the members of the medical profession, we adopted the plan of making each county medical society to name one or more of its members to act as auxiliary to the state committee. Nearly all of the county societies complied with the request. Many of them have shown an active interest and have rendered valuable assistance in legislative work. Some have shown a lack of interest almost approaching

indifference. It should require no argument to convince anyone familiar with the subject that the home society is the main source of power in legislative matters. The legislators are naturally more considerate of the wishes of their constituents than of the views of those approaching them in the capacity of lobbyists. Your committee, therefore, in view of this fact, would urge on the members of the House of Delegates to bring this subject to the notice of their respective societies in order that their influence may be felt in the work which we wish to accomplish.

Bills introduced in the legislature are printed for the use of the members and it is only through courtesy that we are enabled to secure a few copies for distribution and it is in cases where your assistance is urgent that a synopsis of the bills is sent throughout the state.

Dr. W. O. Krohn, Chicago: I move the adoption of this excellent report.

Motion seconded and carried.

Dr. A. Augustus O'Neill, Chicago: I rise to a question of privilege.

The President: State it.

Dr. O'Neill: It is business—the business of the dead, the dead now conspicuous by his bodily absence; while through this assemblage, when Dr. Taylor reported legislative progress at Springfield, ran the chill remembrance of him whose close association with these matters down the years seemed to bring into our midst his phantom presence. Yet a voice calls out “Go on with the business!” Business indeed, serious business, the business of honoring the remembrance of the dead, which no grave can estrange and death but potentialize. His memory shines forth through the gloom and dust of the bitterness and dissension of mistaken attacks.

I rise not simply to praise him and take the time of this convention in this impromptu and useless panegyric. Well do I know the uselessness and impotence of posthumous praise, for no words of praise or blame can soothe or sear the dull, cold ear of death. He is beyond that now, and no word of ours can reach his silent station of rest. My words are not to him. Ah! could he have survived to be with us to-day; could he have been with us yesterday; could he have been present the evening before last and heard what we have heard, many a weight of sorrow would have been lifted from his heart and lines of disappointment erased from his brow. But not this, not even for this do I address you, but to call attention to the self-inflicted wound from which the medical profession is writhing in pain; wounds made by the hand of ambition, the hand of avarice and oftentimes the hand of hypocrisy. Do not misunderstand me. I do not intend,

cannot, will not impugn the integrity or well meaning of any party, clique or crowd, for on both sides I see men of integrity, men of ability, men of genius and men of good intention. It is simply this: When will the profession teach their heads to take counsel of their hearts? We may differ in things of the mind and be lost in the smoke and confusion of vituperation and contention, but at heart all men are agreed that sympathy is deeper than logic. When will we have the courage to say the nice things to the living that we would say to or of the dead, and cast aside the arrogance and pride of self-estimation. “Oh, why should the spirit of mortal be proud,” when we consider the small curve of the human mind confined to such narrow limits and human achievements.

The best of what we do and are—
Great God, forgive.

This time last year Dr. Egan was with us working and striving to reach the same goal, although perhaps traveling by different roads, following the light he had—the light we had. His task is done, but the work goes on—the eternal mission—the spirit of the profession, each in our turn playing our part and as with him.

Await alike the inevitable hour;
The paths of glory lead but to the grave.

Awake then and heal the self-inflicted wounds of our profession, casting aside the bitterness and malignity with which we so frequently view each others' work and strive to travel the road toward Utopia, undismayed by the fact that the projector of that beautiful dream, Sir Thomas Moore, was afterwards hanged, disemboweled and quartered. 'Twas ever thus—the graves of martyrs are the milestones on the road to the ideal. Establish your medical democracy, a democracy of the heart's desire of the whole profession—a democracy resident in every man's bosom, warmed by human sympathies which have been throbbing and struggling in the breast of man in every age and will continue to throb till this world hangs dead in the heavens.

Dr. Carl E. Black, Jacksonville, Chairman of the Committee on Revision of the Constitution and By-Laws, presented the following report:

The Committee on Revision of the Constitution and By-Laws brings in this tentative report with a proviso that it is not satisfactory to any member of the committee, but is introduced solely to have it formally before the House of Delegates, and furthermore, the committee rec-

ommends that a new committee be appointed with instructions to report at a special meeting to be held before the first regular meeting of the House of Delegates in 1914.

CARL E. BLACK,
G. W. FIEGENBAUM,
C. C. O'BYRNE,
D. G. SMITH,
K. A. ZURAWSKI.

The Constitution and By-Laws submitted by the Committee are as follows:

CONSTITUTION

ARTICLE I.—NAME

The name and title of this organization shall be the Illinois State Medical Society.

ARTICLE II.—PURPOSES OF THIS SOCIETY

Section 1. The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Illinois, and to unite with similar societies of other states to form the American Medical Association, and especially to extend medical knowledge and advance medical science; to elevate the standard of medical education; and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members, and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life; and to hold one or more sessions annually at which the above objects and purposes can be discussed and promoted.

ARTICLE III.—COMPONENT SOCIETIES

Section 1. Component societies shall consist of those county or local medical societies which hold charters from this Society.

ARTICLE IV.—COMPOSITION OF THE SOCIETY

Section 1. This Society shall consist of members, life members, honorary members and guests.

Sec. 2. Members. The members of this Society shall be the members in good standing of the component societies.

Sec. 3. Life members shall consist of those members who have already been elected life members of this Society.

Sec. 4. Honorary members shall consist of those physicians of other states, territories, island possessions or foreign countries who have risen to prominence in the profession of medicine, who may be elected by a nine-tenths vote of the members of the House of Delegates present at any annual meeting.

Sec. 5. Guests. Any distinguished physician not a resident of this state may become a guest during any annual session on invitation of the officers of this Association, and shall be accorded the privilege of participating in all of the scientific work for that session.

ARTICLE V.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall consist of (a) delegates elected by the component societies; (b) the councilors, and (c) ex-officio, the President and Secretary of this Society, the retiring President of this Society, who shall be a member for two years, and the chairmen of its standing committees. It shall be the legislative body of this Society, and shall conduct all business, except such as is otherwise provided for by the Constitution and By-Laws. All recommendations of the House of Delegates dealing with the acquisition or disposal of property of any kind, or with the appropriation or expenditure of funds in any way, must be approved by the Council before the same shall become effective.

ARTICLE VI.—COUNCIL

Section 1. The Board of Trustees, or, as in this Constitution and By-Laws designated, the Council, shall consist of ten (10) councilors, elected by the House of Delegates, and the President and Secretary, ex-officio. Besides its duties mentioned in the By-Laws, it shall have charge of and control all the property of this Society of whatsoever nature, and of all funds from whatsoever source.

Sec. 2. No person shall expend, or use for any purpose, money belonging to the Society without the approval of the Council.

Sec. 3. All acts of the House of Delegates involving the expenditure, appropriation or use in any manner of money or the acquisition or disposal in any manner of property of any kind belonging to the Society, must be approved by the Council before the same shall become effective.

Sec. 4. The Council shall formulate rules governing the expenditure of money to meet the necessary running expenses and fixed charges of the Society, as well as such other rules governing its actions as it may deem necessary or desirable. Six members of the board shall constitute a quorum for the transaction of business.

ARTICLE VII.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VIII.—SESSIONS AND MEETINGS

Section 1. The Society shall hold an annual session, during which there shall be held daily general meetings, which shall be open to all registered members.

Sec. 2. The time and place of holding such annual session shall be fixed by the House of Delegates.

ARTICLE IX.—OFFICERS

Section 1. The officers of this Society shall be a President, a First Vice-President, a Second Vice-President, a President-Elect, a Secretary, a Treasurer and as many councilors as may be determined by the House of Delegates.

Sec. 2. The President-Elect, Vice-Presidents, Secretary and Treasurer shall be elected annually by the House of Delegates, to serve for a term of one year, and the President-Elect shall enter on the duties of his office as President for one year from the time of his election.

Sec. 3. The councilors shall be elected by the House of Delegates from lists of nominees presented by a majority of the delegates from the district which the councilor is to represent. Every councilor shall be elected to serve for three years, excepting at the election in 1913, when one additional councilor shall be elected to serve for three years. All officers shall serve until their successors are elected and installed.

ARTICLE X.—FUNDS AND EXPENSES

Section 1. Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, and all annual assessments of each component society are due on the first day of January of each year in advance. Funds may also be raised by voluntary contributions from the Society's publications, and in any other manner approved by the House of Delegates.

ARTICLE XI.—REFERENDUM

Section 1. A general meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of the Society, who may vote by mail or in person, and, if the members voting shall comprise a majority of all the members of the Society, a majority of such vote shall determine the question and be binding on the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to a general referendum, as provided in the preceding section, and the result shall be binding on the House of Delegates.

ARTICLE XII.—THE SEAL

The Society shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session, provided that such amendment shall not be acted on until the day following that on which it was introduced.

BY-LAWS

CHAPTER I.—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment as provided in these By-Laws, shall be prima facie evidence of membership in this Society, and all the rights and privileges pertaining thereto.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified,

by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

CHAPTER II.—ANNUAL AND SPECIAL SESSIONS OF THE SOCIETY

Section 1. The annual session shall be held at such time and place as has been fixed at the preceding annual session by the House of Delegates; provided, however, that the time and place of the session may be changed by the President with the unanimous consent of the Council (Board of Trustees) at any time two months prior to the time selected for the annual session.

Sec. 2. Special meetings of either the Society or the House of Delegates shall be called by the President on petition of twenty delegates or fifty members.

CHAPTER III.—GENERAL MEETINGS

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings and of the sections. The general meetings shall be presided over by the President or by one of the Vice-Presidents, and before them shall be delivered the address of the President and the orations.

Sec. 2. The general meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and public.

CHAPTER IV.—SECTIONS

Section 1. For the transaction of scientific business, there shall be one or more sections, as may be determined from year to year by the Committee on Scientific Work.

Sec. 2. The scientific work shall include the practice of medicine, medical specialties, materia medica and therapeutics, etiology, pathology, hygiene, state medicine, medical jurisprudence, surgery, surgical specialties and obstetrics.

Sec. 3. The general section of each section, as the case may be, shall elect its own chairman and secretary. The section officers for scientific work shall be elected for two years, and the chairman and secretary of such sections shall go out of office on alternate years.

Sec. 4. The Committee on Program shall have power to place any paper in its proper section when in its discretion it has been reported in the wrong section.

Sec. 5. No paper by a member shall be listed on the program unless its author's membership has been certified to the Secretary before March 20, prior to the date of the annual meeting.

Sec. 6. No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstance, when the members of the section shall decide by vote whether the paper may be read by proxy. A paper read by proxy may be referred to the Committee on Publication.

Sec. 7. No paper shall be reported to the Committee on Publication until it has been placed in the hands of the Secretary, and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for same.

Sec. 8. No paper shall be received by or read before this Society that has been presented to any other society, except a component unit of this Society, or that has been offered for publication in any journal. In the case of any paper accepted by the Society, the author is supposed to have invested in the Society all right of ownership until after its publication in the official JOURNAL of this Society.

CHAPTER V.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the annual session of the Society, and shall fix its hours of meeting so that they shall conflict as little as possible with the general meetings of the Society. But if the interest of the Society and profession require, the House of Delegates may meet in advance of the annual session.

Sec. 2. Every component society shall be entitled to send to the House of Delegates each year one delegate for every one hundred members, and one for every major fraction thereof; but every component society which has made its annual report and paid its assessments as provided for in this Constitution and By-Laws shall be entitled to one delegate.

Sec. 3. Fifty per cent. of the delegates registered for the annual meeting shall constitute a quorum for the transaction of business.

Sec. 4. It shall, through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession in each county in the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the state who is or can be made reputable has been brought under medical society influence.

Sec. 7. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

Sec. 8. It shall divide the state into councilor districts, specifying what component societies each district shall include; provided, that in forming such councilor districts the boundary line of the territory occupied by the component society must be followed and the territory of all societies in a district must be contiguous; and provided that it shall organize in each a district medical society, and all members of the component county societies of that district shall be members of such district society; provided that by mutual agreement in writing, filed with the Council by the

councilors, for two or more councilor districts, said councilors may form a district society embracing the members of all the component societies within such councilor districts.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 10. It shall approve all memorials and resolutions issued in the name of the Society before they shall become effective.

Sec. 11. In its discretion the House of Delegates may pay the railroad fare (mileage only) of its members who were registered at the first session and were in continuous attendance during the various sessions of the House of Delegates during the annual meeting, as shown by the official minutes of the Secretary; providing the Council reports sufficient funds to justify the expense.

CHAPTER VI.—ELECTION OF OFFICERS

Section 1. All elections shall be by secret ballot, excepting by unanimous consent of the delegates present, and a majority of the votes cast shall be necessary to elect.

Sec. 2. The election of officers shall be the first order of business of the House of Delegates after reading the minutes at the first session on the third day of the meeting of the Society.

CHAPTER VII.—DUTIES OF OFFICERS

Section 1. The President shall preside at the general meetings of the Society and at the meetings of the House of Delegates. He shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the state, and assist the councilors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-President shall assist the President in the discharge of his duties; preside in his absence or when called on to do so. In the event of the President's death, resignation or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Treasurer shall give bond at the discretion of the Council. He shall demand and receive all funds due the Society, together with the bequests and donations. He shall pay money out of the treasury only on approval of the Council. He shall subject his accounts to such examination as the Council may order. He shall annually render to it an account of his doings and of the state of the funds in his hands, and perform such other duties as may be assigned to him.

Sec. 4. The Secretary shall attend the general meetings of the Society, and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be ex-officio secretary of the Council. He shall be custodian of all record books and papers belonging to the

Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the annual sessions. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and on request, shall transmit a copy of this list to the American Medical Association. He shall aid the councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council or the House of Delegates, and shall make an annual report to the House of Delegates. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment, collect the same, and at once turn it over to the Treasurer. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Council.

CHAPTER VIII.—COUNCIL

Section 1. The Council shall meet daily during the annual session of the Society, and at such other times as necessity may require, subject to the call of the chairman or on petition of three councilors. It shall elect a chairman and a clerk, who, in the absence of the Secretary of the Society, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates, which report shall be the first order of business after the reading of the minutes, at the first session of the annual meeting of the House of Delegates.

Sec. 2. Each councilor shall be organizer, peace-maker and censor for his district. He shall visit the counties in his district at least once a year for the purpose of organizing component societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district to the Council. The necessary traveling expenses incurred by such councilor in the line of the duties herein imposed may be allowed by the Council on a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Society.

Sec. 3. The Council shall be the board of censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature before the House of Delegates or the general meeting may be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies on which an appeal is taken from the decision of an individual councilor. An appeal from the decision of the Council may be taken to the House of Delegates.

Sec. 4. In sparsely settled sections or for other sufficient reasons, it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated, so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the society, and all orders on the Treasurer for disbursements of money must be approved by the Council. It shall annually audit the accounts of the Treasurer and Secretary and other agents of this Society, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary, and this report shall be furnished in printed form to the members of the House of Delegates. In the event of a vacancy in the office of the Secretary or the Treasurer, the Council shall fill the vacancy until the next annual election.

CHAPTER IX.—COMMITTEES

Section 1. The standing committees shall be as follows:

- A Committee on Scientific Work.
- A Committee on Medical Legislation.
- A Committee on Public Policy.
- A Committee on Secretaries' Conference.
- A Medicolegal Committee.

A Committee on the Financial Relations of the Profession.

A Committee on Medical Education.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided for.

Sec. 2. The Committee on Scientific Work shall consist of the chairman and secretaries of the respective sections, and the President and Secretary of this Society. It shall meet as soon as convenient after the adjournment of the annual session, and shall arrange the scientific program for each session, subject to instructions by the House of Delegates.

Sec. 3. The Committee on Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion; shall endeavor to establish legislation so as to secure the best results for the whole people.

Sec. 4. The Committee on Public Policy shall consist of three members and the President and Secretary, and shall have charge of all matters of public policy of interest to the Society, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs.

and elections, and may call a preliminary meeting of the members of the Society for the discussion of any such subjects which may be presented, and shall report the recommendations of such meetings to the House of Delegates at its first meeting.

Sec. 5. The Committee on Arrangements shall be appointed by the component society where the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Society, the sections and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements, subject to the direction of the Council. Its chairman shall report an outline of the arrangements to the Secretary, for publication in the program, and shall make additional announcements during the session, as occasion may require.

Sec. 6. The Medicolegal Committee shall consist of three members from Cook County, and one member from each other county in the state. They shall be elected by the House of Delegates on the recommendation of the various county societies. The term of service of each member of this committee shall be three years, provided that in the original organization of this committee the services shall be grouped by lot into three divisions, with terms expiring in one, two and three years, respectively. This committee shall organize by electing a chairman, a secretary and an executive committee of five. It shall be the duty of the members of this committee severally or collectively to investigate all claims of malpractice against members, to adjust such claims in accordance with equity where possible, and if in their judgment an adjustment is impossible, or the claim is unjust, or the damage sought is excessive, to lend such help, aid and counsel as they may see fit.

They shall effect such organization as they see fit and adopt rules for their guidance and for the guidance of members of the State Society on medicolegal matters. They shall be empowered to contract with such agents as they may deem best. They shall have charge of the medicolegal fund, which shall be secured as follows: Each member of the State Society shall be assessed for this fund alone. This fund shall be paid along with the other dues, and through the same channels.

Sec. 7. The Committee on Medical Education shall consist of three members; one member shall be elected to serve for one, one for two, and one for three years; thereafter one member shall be elected each year to serve for three years. The functions of this committee shall be (1) to cooperate with the State Examining Board in matters pertaining to medical education; (2) to make an annual report to the House of Delegates on the existing condition of medical education in the state; (3) to cooperate with the Council of Education of the American Medical Association in the effort to elevate the standard of medical education in the United States.

Sec. 8. The Committee on Secretaries' Conference shall consist of three members. They shall be elected by the secretaries' conference. The term of service of each member of this committee shall be one year. This committee shall organize by electing a chairman, a vice-chairman and secretary. It shall be the duty of this committee to arrange for annual conferences of the secretaries of the component county societies of the state.

CHAPTER X.—COUNTY SOCIETIES

Section 1. All component societies now in affiliation with this Society, or those which may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application to and approval of the Council, receive a charter from and become a component part of this Society.

Sec. 2. Any component society which shall fail for two consecutive years to pay its annual assessments to this Society, as specified in this Constitution and By-Laws, may have its charter revoked by the Council after due notice.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Society.

The Council shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county, excepting in counties having three hundred (300) or more members, application may be made to the Council for a subdivision of the county into two or more branch county societies, each of which may receive regular charters as component societies on application to the Council in the usual manner, and provided that each branch county society thus organized shall contain not less than seventy-five (75) or more than five hundred (500) members in good standing who shall live within a definitely bounded territory, and who shall constitute not less than fifty (50) per cent. of the legally qualified physicians living within this district.

Where no properly organized component medical society exists in a county or in a part of a county, the councilor for the district shall use every friendly means to secure the organization of a society in such county or district. In case of failure of a county or a part of a county to organize a component society as provided in these By-Laws the Council shall decide what action shall be taken.

Sec. 5. Each component society shall judge of the qualifications of its own members, but as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who does not claim to practice nor lend his support to any exclusive system of medicine should be entitled to membership. Before a charter is issued to any component society, full and ample notice and opportunity shall be given to every physician in the county or branch to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council and finally to the House of Delegates.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its own judgment will best and most fairly present the facts, but in every case of appeal efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society changes his residence to another county in this state, his name shall be transferred,

without cost, to the roster of the county society into whose jurisdiction he moves; provided he is duly elected according to the rules of the society into whose territory he has moved.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county, and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. The secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making this annual report he shall account for every physician who has lived in the county during the year. When requested, he shall furnish, on blanks supplied to him for the purpose, an official report containing such information to the Secretary of this Society and likewise to the councilor of the district in which such county is situated.

Sec. 12. On or before March 1 of each year the secretary of each component society shall file with the Secretary of this Society a certified list of all members in good standing as shown by compliance with all the provisions of the Constitution and By-Laws of such component society, and the payment of all assessments of this Society, and such list shall be accompanied by a roster of the officers and the names of the non-affiliated physicians.

Sec. 13. Societies failing to certify the list of members prior to March 1 shall be notified of their failure by the Secretary of this Society within five days, and those component societies still failing to certify a list of members prior to March 20 shall not be entitled to representation in the House of Delegates at the annual meeting of that year.

Sec. 14. Each delegate with his duly elected and designated alternate must be certified to the President and Secretary of this Society by the president and secretary of the component society not later than March 30 of each year.

Sec. 15. A committee of four shall be appointed by the President on or before April 1 of each year, who, with the Secretary shall constitute the Committee on Credentials, which committee shall meet not later than April 15 of each year, at which time they shall examine the certified lists of members and determine the number of members in good standing in each component society with the date of certification, and shall also examine the certification of delegates and alternates to determine whether such delegates and alternates were elected in accordance with the provisions of these By-Laws.

Sec. 16. The Committee on Credentials shall prepare a report which shall give the name of each component society in good standing, with names of its members properly and duly certified to the Secretary of this Society, and the date on which such list was filed, and also the name of the delegate or delegates, and duly designated alternate or alternates elected in accordance with these By-Laws, and the committee shall cause their report to be published in the May number of the official JOURNAL of this Society, and such report shall announce the hour and date at which the credentials of delegates and their alternates will be received by the committee.

Sec. 17. The Committee on Credentials shall convene at least one hour prior to the opening of the annual session of the House of Delegates at the time and place appointed for the meeting of the House of Delegates, and shall then register the properly elected delegate or delegates to represent each component society or if a delegate is absent, shall seat his duly designated alternate.

Sec. 18. The Committee on Credentials shall present to the House of Delegates immediately after the House convenes a register of the membership of the House as constituted by the seating of the aforesaid delegates or alternates, who shall serve in the place of absent delegates. Prior to each session of the House of Delegates the Committee on Credentials shall convene for the purpose of completing the roster of the House by seating delegates or alternates of societies whose delegates are not already full.

Sec. 19. The credentials of a delegate having been accepted by the Committee on Credentials and his name placed on the roll of the House, he shall remain the duly accredited delegate of the body which he represents until final adjournment of the session, and his place shall not be taken by another delegate or alternate.

CHAPTER XI.—MISCELLANEOUS

Section 1. No address or paper before the Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

It shall be the policy of this Society for the chairman of sections to give preference to those papers that have been previously read before a component society.

Sec. 2. All papers read before the Society or any of the sections, shall become its property. Each paper shall be deposited with the Secretary when read, and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

Sec. 3. The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 4. The Committee on Arrangements, after paying the legitimate expenses of the annual meeting, shall turn all surplus, if any exists, into the treasury of this Society, and the Illinois State Medical Society shall not assume any liability for any deficit.

Sec. 5. The fiscal year of this Society shall be from January 1 to December 31.

CHAPTER XII.—AMENDMENTS

These By-Laws may be amended or suspended by the House of Delegates at any annual session by a two-thirds vote of all the delegates present.

At the conclusion of the report Dr. Black said: I would say the whole committee has really never had but one meeting, and that for a few minutes on yesterday, so that this matter is left with you in this form.

I move the adoption of the report.

Dr. Corwin: I second the motion.

Dr. J. E. Stubbs, Chicago: I move as a substitute motion that the report be received and that the recommendations be rejected.

Motion seconded.

Dr. Merlin Z. Albro, Chicago: Some two years ago, at Aurora, there was presented to the House of Delegates two amendments to the Constitution. One of them was known as the Zurawski amendment, and the other as it now appears in this tentative report, as Chapter 10, Section 4. The Zurawski amendment provided for the election of one set of delegates, those elected directly by the component societies, and was a step in the direction of democracy. That amendment has been omitted from this report. The other amendment, now marked Chapter 10, Section 4, I have here, and if I have permission I will read it.

The President: You must confine yourself directly to the substitute motion and that hardly bears on it.

Dr. Albro: I am speaking to the subject of the motion.

The President: I hardly think so. The question is on the rejection of these recommendations.

Dr. Albro: The reasons why these recommendations should be rejected, I believe, will bear on the question of the discussion, and that is exactly what I intended to say in order to bring up this matter. I propose to read to you Section 4, Chapter 10, so that you can see what it is, and then you will understand why we wish these recommendations to be rejected. Section 4 reads:

Only one component medical society shall be chartered in any county, excepting in counties having 300 or more members, application may be made to the Council for a subdivision of the county into two or more branch county societies, each of which may receive regular charters as component societies on application to the Council in the usual manner, and provided that each branch county society thus organized shall contain not less than seventy-five or more than 500 members in good standing who shall live within a definitely bounded territory, and who shall constitute not less than 50 per cent. of the legally qualified physicians living within this district.

Where no properly organized component medical society exists in a county or in a part of a county, the councilor for the district shall use every friendly means to secure the organization of a society in such county or district. In case of failure of a county or part of a county to organize a component society as provided in these By-Laws the Council shall decide what action be taken.

That is the complete section. That part of it which specifies counties having 300 or more members applies solely to Cook County; consequently, whatever bearing this section may have, it has a bearing upon Cook County, and no other county society is to be considered. The effect of this action would be to divide the Chicago Medical Society into at least five separate independent rival disunited societies.

Now, gentlemen, the Chicago Medical Society is the largest local medical society in the world. It has about 2,400 members. It is working quietly, steadily and effectively along the best lines of the profession, and it is accomplishing splendid work, and the reason that it is accomplishing splendid work is because of its splendid organization. If you disrupt and destroy the mechanical organization of that society, you destroy the usefulness of it, as its usefulness is based on its technical organization. The parent organization has divided itself for convenience and for scientific purposes into fourteen branches, and those fourteen branches hold one scientific meeting every month except in the summer months. We have, therefore, fourteen branch meetings in the Chicago Medical Society every month, each one of which is held in the territory of the district which the branch composes, and each one of which is therefore conveniently located for the members composing that branch. In addition to that, the main body holds four or five meetings a month. It holds a scientific meeting every week on Wednesday night, which means four or five scientific meetings every month, bringing the total up to eighteen or nineteen medical meetings each month. If you have watched the *Bulletin* that is published by the Chicago Medical Society, you will find that the programs of the branches are high class; in fact, some of the branch societies are inclined to think that their programs are as good if not better than those of the central body. That does not mean unhealthy rivalry, but means we are all striving to do our best, and that there is a healthy rivalry among the branches to see who can do the best work. If you place five societies or more in this district they will have no connection with each other. They will have no rela-

tionship. There will be no ties of unity, no channels for communicating with each other; there will be none of the touch of the elbow that is so important in organization work to keep these societies up to their standards. That is perhaps theoretical; perhaps it is sentimental; call it whatever you like. It is intensely practical for organization.

The Chicago Medical Society has a Milk Commission which has been in existence for six years, and it has done good work. It is the body through which the Chicago Medical Society is able to furnish the community of that territory certified milk that is sold in the city of Chicago and is purchased under the certification of the Chicago Medical Society's Milk Commission. If you divide the Chicago Medical Society into five or more branches, which one of these branches shall take on the Milk Commission? This Milk Commission is a matter of dollars and cents to many men. The certification of the Milk Commission covers fifteen farms, the owners of which have provided themselves with the most improved machinery and have put into operation the most improved and approved methods. Thousands of dollars are involved in the production and distribution of this milk. If the Milk Commission——

The President: You are out of order, doctor. I will have to rule that. What you are talking about is not in the By-Laws. The recommendation, as I see it, is that a new committee be appointed with instructions to report at a special meeting to be held before the first regular meeting of the House of Delegates in 1914. This By-Law is not before this meeting for consideration, and this gentleman (Dr. Stubbs) has made a motion to reject the recommendation, and the only question is whether we shall reject the recommendations or not.

Dr. R. J. Christie, Quincy: I move the substitute motion be tabled.

Cries of No! No!

Dr. Albro: This proposition has been hanging over the Chicago Medical Society for two years. We do not feel that this should be continued any longer, as it is a source of worry and annoyance and irritation to our society. It has been kept hanging over us, so that we do not know where we stand so long as this thing is in existence.

The President: The question before the House is the motion to reject the recommendations or not.

Dr. Albro: If this report falls, the matter is ended there. There is no provision then for any

future committee or provision made for anything further.

The President: You are out of order, doctor.

Dr. Andrew M. Harvey, Chicago: I appeal from the decision of the Chair.

The appeal was seconded.

Dr. Harvey: Dr. Albro, Mr. President, is in order. He is trying to make arguments why this House should vote for this substitute motion; he is trying to make clear why the substitute motion should be carried.

The President: All those in favor of sustaining the Chair will please say aye; contrary-minded, No. The Noes have it.

Dr. Albro (resuming): I do not believe there is much I have to say in addition to what I have already said. I have set forth the reasons why we wish to have this matter dropped here now, this matter of Constitution and By-Laws which brings in a section of the By-Laws which will destroy the usefulness of the Chicago Medical Society.

There is one point more which I will bring to your attention why this thing should be rejected. It is not my point or our point, but it is your point. There is nothing in this section which will prevent the Chicago Medical Society from forming five or more societies in its territory, and thereby securing double representation in the House of Delegates in the Illinois State Medical Society.

Dr. D. G. Smith: It is very unfortunate that this question is up for debate right now. Yesterday, for the first time, as our Chairman has stated, the full committee met for only a short time. We there and then agreed, and all of us have signed this report, that we have no report of revision of Constitution or By-Laws to present to this society or to this House of Delegates for consideration. We did not mean to harm the Cook County Society in the least. This article which Dr. Albro refers to we have told you we were not unanimously for. We are not satisfied with it, nor do we ask you to adopt it, and for that reason this debate is all unnecessary at this moment. The members of this committee are so located that it was hard for them to get together, and we only have a tentative report for you to take home with you, read and study, and come here in a year from now at the hour called by the president, and we will act then. We also stated in this report that the president shall appoint a new committee to bring in a more thorough revision of the articles before this House of Delegates to be considered at that time. There-

fore, this one particular article which Cook County is afraid is going to bring destruction to them is not here for discussion at this time. It seems to me, it is useless for us to dive into this question at this time. The only proposition is whether you are going to accept what we have done so far, and we have recommended to you to appoint a new committee and discharge us, and that is all that we have asked. We cannot legitimately consider these articles to-day. I think my fellow colleagues on this committee will bear me out in that because our instructions a year ago were that they were to be printed; that the proposed articles were to be printed and submitted at a former meeting, and acted upon at a later one, which could not be done at this time. It is useless to adopt this report at this time. You may accept, and let the President at some time, when he sees fit, appoint a committee to take this up, and comply with these articles and also with the former articles suggested a year ago.

Dr. Albro: The point is exactly there. If we do not want that recommendation of five men constituting a new committee, why should we have it, debate or no debate? Do we want a new committee or do we not want it? (Cries of No! No!)

Dr. Smith: You are debating the article or section.

Dr. Albro: I am debating the rejection of the recommendation for five members to constitute a new committee. Is that clear? I have been stating the reasons why—

Dr. Smith: You went into one particular article or section.

There were cries of Question! Question!

The President: I want to make this statement, that if this motion should pass, the present President would not appoint that committee. It would be done by the incoming President.

Dr. Harvey: I move to include in Dr. Stubbs' motion that the committee be discharged.

Dr. Stubbs: I accept the amendment.

The substitute motion, as amended, was then put and declared carried.

Dr. Corwin: I rise to a question of special privilege.

The President: State it.

Dr. Corwin: It is gratifying to know that, at last, Cook County is really recognized. (Laughter.)

Dr. Harold N. Moyer, Chicago, Chairman, presented the report of the Medico-Legal Com-

mittee, and after describing the work that has been accomplished by the committee during the year, he said: With reference to the matter of recommendations, I sent a letter to the members of the society stating the situation had somewhat changed regarding malpractice insurance. About seventy per cent. of the members are now insured. There were about ten per cent. insured when we began our operations. It is obviously some injustice for a man to have his expenses paid out of your fund, and another man, right along side of him who pays \$15 to an insurance company, has his expenses paid by the insurance company. That is perfectly obvious. Shall the society take up the question of insurance itself? Concerning that, I have one recommendation to make and say yes absolutely; I am unqualifiedly in favor of doing it on a mutual basis. In the first place, the expense of insurance by the insurance companies is going to go up. The Fidelity and Casualty company have raised from \$15 to \$25, with a \$5,000 indemnity, and there is great possibility that other insurance companies may advance their rates. This society is paying between \$50,000 and \$60,000 a year for insurance when it can just as well do it on a mutual basis as not. It is an easy and simple thing. If you decide that, the proposition of going from the present basis to the insurance basis is as simple as can be. You now put a dollar into the Treasury. You do it involuntarily, so to speak, because you have no voice about it. It goes to the Medico-Legal Committee fund. I have never been a believer in that system. It was dear to Dr. Evans when we started eight years ago. That fund should be recruited by voluntary contributions. If a man is a member of the society and pays his dues, and if he wants to share in the benefit of the defense fund, he should pay for it. If he does not, he does not share in it. It is purely voluntary. That is the way it should have been started originally.

How shall we go from the present basis to the other? My idea is this: I would make three classes of medico-legal contributions; I would let each man at the time he pays his dues or any time he may select send \$2.00 to the Medico-Legal Committee or to the Treasurer, and if he wants simply to have his expenses paid, the cost of litigation, the attorney's fees, etc., he can pay in damages any amount that might be obtained against him.

The next is the \$7.00 class, \$2.00 of which is to go into the fund for the defense, just like the other man pays \$5.00 to go into the fund now

to pay the proportionate damages which may be obtained against him up to \$2,500.

The third class is those that pay \$12.00, \$2.00 the same as the other, and \$10.00 to go into the fund to meet any indemnity up to \$5,000 for any one case. The bookkeeping under that system would be very simple and easy. It is just as good insurance as you get now when you buy a gilt edge diploma with a big seal on it. It is a short term contract, as the insurance companies write now only from year to year. This would rapidly accumulate a substantial fund, probably \$100,000 inside of two or three years. It would take care of all malpractice business, and when the receipts got large enough we could drop the dues for a year or remit them. We could make this thing elastic.

How will you hitch that on to the present arrangement? You can do it as it does not involve a change in the by-laws or change in anything. How will you operate it now? If you should adopt it at this meeting, and it ought to be put into operation for one year, just let the medicolegal committee send out a letter outlining this plan to all of the members, and if enough members favor its adoption you can go to the new system next year without any change at all.

We have here with us Mr. Rawlings. He has been with us for years. He is our general attorney in Chicago for the committee, and I have asked him to come down here to say a few words to you on malpractice suits and their relation to insurance. I cannot speak to you from the legal side of this thing regarding the recommendations. He is also attorney in Cook County for the Medical Protective Company of Fort Wayne, Ind., which company I understand writes about seven-tenths of the insurance of this city, and perhaps a larger proportion in Chicago. Fortunately, the same attorneys represent the Society and the insurance company. I want Mr. Rawlings to say a word or two to you about this proposition and what he thinks of it from a legal standpoint, and also the relation of insurance companies to medical societies. The proper way in my judgment is for the Society to do this on a mutual basis. It is too expensive to do it through the insurance companies. It lacks that unanimity, that centralization which is very vital in meeting the situation of the profession as a whole.

We have recently gotten a decision from the Appellate Court regarding malpractice suits. And

we got it because we are operating along one line all the time.

Now, gentlemen, I want you to listen to Mr. Rawlings.

Mr. Edward W. Rawlings, Chicago: Mr. President: I have not anything in the line of a speech. What I shall say will be in the nature of a short general talk or discussion. I have had a good deal of experience in these cases. Since I commenced the practice of law I have been interested in this work for the Chicago Medical Society, and have had charge largely of all their cases in Cook County, and during the last two years I have been handling cases for the Medical Protective Company of Fort Wayne, Ind. Of course, in handling and in observing the handling of these cases, not only through our own offices, but through the offices of other attorneys and other insurance companies, I have observed a good many things that have created in my mind a pretty strong impression as to the best way of dealing with these cases.

The success the Chicago Medical Society has had, or that the Illinois State Medical Society has met with, in the handling of these cases, as measured and compared with other litigation, has been nothing more nor less than marvelous. I want to say this, that while I do not consider the success that has been met with in the handling of these cases has been due to our office or to the offices of any of the other attorneys throughout the state who have been dealing with these cases, yet I attribute it entirely to the way in which the physicians have worked together and have assisted each other in the preparation and trial of these cases. You may say that this has just happened this way, and may be it has, because we have been fortunate, but the fact is, if you will take up and read from month to month, as they are published, the legal reports and decisions from other states in the Union, you will find there is scarcely a volume of these reports published in which you will not find one or more decisions on malpractice cases, and in many instances large verdicts and judgments against the doctors. It has been seven years since there has been in the Supreme Court of Illinois a malpractice case, and only a few have gotten into the Appellate Court, and only a few judgments have been permitted to stand against the doctors. (Applause.)

This is not due to any superiority or any unusual skill on the part of the attorneys who have been representing the doctors in this litigation, because it is easy enough if you get the material at hand. If you get the assistance, it is easy

enough to present these cases as they ought to be presented, and in nine cases out of ten if every malpractice case is properly presented, and if the facts are furnished and the material is there, the cases ought to be won by any reasonably competent and careful attorney.

Coming now to the question of insurance and as to how it will work out in your own Society, and how practical it is from a business standpoint, I do not pretend to make recommendations, except I would say that in my opinion from a legal standpoint it is practicable and can be worked out; whether or not it is the best thing, whether or not you want to go into it, and have your litigation handled in this way is a question that rests primarily with you. There is this one thing I want to say, and one thing that has been impressed on me is this: that in some form or other, whether it be continuing along the same line you are going now by contributing a dollar from year to year, or whether it be going into the matter more extensively from an insurance basis, it is absolutely essential and vital to the welfare of the physicians and surgeons in this state that the State Medical Society in some form or other should be interested in the handling of these malpractice cases. I will tell you why. These insurance companies are good; practically each and every one of them, so far as I know, are good, reliable, trustworthy companies and they do the best they can. It is to their profit, to their welfare to do the best they can. They hire the ablest counsel they can get to represent them. The trouble lies here: The responsibility of the defense of these cases rests on somebody else outside of your organization, and you yourselves are not responsible for that. You are like all other men in all other lines of business, you shift this responsibility, and let the matter drag along. But I want to say to you, that there is no one or body of men who can so get together and unite in a proposition of this kind as can the medical society. As has been said here in connection with other statements, there is a sort of sentiment about the thing; there is a sort of loyalty on the part of you fellow doctors and a sympathy that brings you together, and if you cannot be brought together through your own efforts, the insurance companies cannot bring the doctors together. Understand, I am not saying a single word against the insurance companies, for I represent one of them myself which does a large business in this state, and it does its work mighty well. I think every doctor ought to have insurance to

protect himself and family, because I have seen and handled cases where some doctor unfortunately has not even had the protection of a medical society or insurance company, and I know the agony, the worry and fret this man or such men must have gone through while cases were awaiting trial and in getting testimony to protect themselves against suits for malpractice.

The message I bring to you is that in some form or other you gentlemen want to keep the hands of your society on the handling of these cases in this state. I do not care whether it is the simple way it goes on now, or in the way of insurance, but it must be done. In the cases I have tried, when I have asked a doctor for assistance or have called on the society for aid, it has always been given promptly and willingly and was effective, and we have been able to get into the trial of these cases early and have been able to get help that could not be obtained in any other way than through this society. It does not make any difference how good the attorney; it makes no difference how hard you work, unless we can get the assistance of the doctor and work together in these cases, we are going to begin to lose some of them. As Dr. Moyer has said, it seems to be getting harder and harder every year. They are becoming more systematic on the other side. They are making greater efforts to get expert testimony to be used against you, and you do not know how easy it is for a friend or the relatives of someone to misrepresent just a little, to misconstrue your acts, to tell about the things just a little differently than the facts will actually warrant. Someone may go on the stand and testify against you and say that you are wrong, no matter how well you did your duty. The only way to meet that opposition is for you to stand together. There are a great many men who do not pay very much attention to a state medical society; in fact, they have a passing sort of interest in the affairs of the society, and it is those men that we have got to fear, and it is those men that can be reached and can be handled by the society, and cannot be handled by anybody else. By handling I do not mean the exercise of any improper influence, but getting them interested in the case. I want to say to you that I believe nine out of every ten malpractice cases that have come under my observation have been caused by the thoughtless ill-considered remark of some doctor who has followed another doctor in a case. When a doctor steps out of a case, necessarily the patient or the patient's friends feels out of sorts with him in

some way or other, and the slightest expression by the doctor who succeeds him, may be unintentional, may be the means of instituting litigation. It is these things you should watch above all others, and advise and counsel the members of your profession to avoid doing anything that will reflect on a brother practitioner. Of course, sometimes you do not use the best remedy; no doctor in the world does that. No matter how you do it, your society ought to and must, if it wants to keep up its exceptional record, keep in some form its hand on and interest in the handling of these malpractice cases.

The insurance scheme suggested by Dr. Moyer from a legal standpoint can be worked up, but as to its practicability I offer no suggestions.

Dr. Moyer: A word about the personnel of the committee. This is final. I think I have made numerous farewells, and your committee, as you are aware, is somewhat peculiarly constituted and appointed by the Chicago Medical Society of Cook County, and the state society adopts me. (Laughter.) That is why I am the only child of adoption in the state society. I have taken great interest in these things. I have been looking around for a possible successor, and have him appointed on the committee. I have canvassed among the more intelligent members of Cook County and have tried to find my successor, and perhaps I shall succeed in the immediate future.

With reference to my report, what I am asking you to adopt is this: I am asking you to adopt this plan of an insurance scheme, not to put it into effect at once, but to give it to each individual and see what he thinks about it, then after we have received so many replies we can make it effective or operative about June, or the first of January, 1915. That gives a chance for the current policies to lapse and every man to arrange his affairs.

Dr. Krohn, Chicago: I move the adoption of the report.

Motion seconded and carried.

Dr. Moyer: You have never audited my books. Do you not think this ought to be done?

Dr. Van Derslice: I would suggest that they be audited in connection with the books of the Chicago Medical Society by a public accountant.

Dr. Moyer: That will be satisfactory to me.

Dr. E. M. Brown, Chicago: Mr. President, I rise to a question of special privilege.

The President: State it.

Dr. Brown: *Mr. President and Members of the House of Delegates.*—In view of the sixteen years of long, hard, able, faithful and efficient

service of our retiring secretary, Dr. E. W. Weis, and in view of the fact that we have not and cannot ever fully repay him for the services he has rendered, and in view of the further fact that we individually and collectively feel deeply indebted to him, and for whom we feel deep gratitude, respect and almost love, I move, Mr. President, that this body recommend to the Council of the Illinois State Medical Society that an appropriate gift in value of not less than \$500 be appropriated and presented to Dr. E. W. Weis at the proper time and place, as the Council sees fit, in appreciation and recognition of his distinguished services. I would also suggest and recommend and move as a part of this motion, that Dr. Ensign of La Salle represent the House of Delegates in this matter with the Council of the state society.

Dr. Andrew M. Harvey, Chicago: It gives me great pleasure to second this motion.

The motion was put and unanimously carried.

Dr. W. O. Krohn, Chicago: I wish to move that a vote of thanks be extended to the committee of arrangements who have provided for this meeting, which is about to be concluded, of the Illinois State Medical Society, and that further a vote of thanks be extended to the officers of the Peoria Medical Society, and to the citizens generally who have contributed so successfully to the effectiveness and efficiency of this meeting.

Dr. Corwin: I second the motion. (Carried.)

Dr. Carl E. Black, Jacksonville: At the last session of the House of Delegates some questions were asked about the cost of publishing THE JOURNAL, and I promised to have the figures on this occasion, and I have only a memorandum. Last year, 1912, the cost of printing was \$5,116.85; cost of the editor's office, \$1,320.00; cost of the assistant editor's office, including commissions on advertising, \$1,306.10. Miscellaneous expenses, including stenographer for the society, \$327.37. Indexing, \$75. Expenses of the committee on publication, estimated at \$25; salary of the editor and assistant editor, \$1,020.00, making a total of \$1,447.37 miscellaneous expenses. Total expense, \$9,190.32, and income of \$3,976.89, making net expense of THE JOURNAL to the society, \$5,213.43. I have here the monthly income and the monthly expense account. I can furnish the secretary this statement, but it is simply taken from the books that have been audited. That is all.

Dr. Henry F. Lewis, Chicago: I have here a letter which has been received by our president,

which I will ask the secretary to read, and I wish to make a motion in relation to it.

The Secretary read the following:

The secretary of interior has been charged by congress with the administration of the Hot Springs (Ark.) Reservation on which are located the Hot Springs of Arkansas. The American Medical Association at the Los Angeles session in 1911 passed a resolution urging the government to make a thorough study of the mineral springs of this country, and a bill has since been introduced in congress providing for research work by competent men to determine the physiologic and therapeutic effects of the hot water from these springs and to report on the application of the waters to the relief and cure of diseases. The department of the interior in administering the affairs of the federal reservation on which the springs are located, in formulating rules with reference to the use of the water as a remedial agent and in supervising the operation of the bath houses, is providing for the care of the sick and desires to better the service along scientific and ethical lines and to place in the hands of the profession and of the public accurate and reliable information concerning the use of the water. The research contemplated is of general rather than local interest, as patients come from every state to take the baths for many diseases and frequently by the advice of their own physicians.

Under separate cover there has been transmitted to you the annual report from this office, on page 14 of which will be found a copy of the bill. There are also enclosed copies of a few letters received from prominent medical men, resolutions passed by medical societies and editorials from medical journals received since the report of the Secretary on the bills printed.

It is desired to have this bill considered by all of the state medical societies at their next annual meeting and to obtain from them in the form of resolutions, opinions as to whether or not the government should undertake this work. Will you not bring the matter up for consideration by your state society or place it in the hands of some member who will attend the annual meeting and who will interest himself in the subject?

I am sure that your assistance will be greatly appreciated by the officials of the department in Washington, as well as by myself.

Very sincerely yours,
HARRY M. HALLOCK, Medical Director.

Following the reading of this communication, Dr. Lewis offered the following resolution, and moved its adoption:

Resolved, That the Illinois State Medical Society favor the enactment of the bill now before Congress which provides for research work under government supervision to determine the physiologic and therapeutic effects of the waters of the Hot Springs Reservation in Arkansas.

Motion seconded and carried.

Dr. Charles C. O'Byrne, Chicago: I move that a rising vote of thanks be extended to our retiring president for his untiring work during the

past year, and for the fair and impartial manner in which he has presided over the deliberations of this House of Delegates.

This motion was seconded by several and unanimously carried.

Dr. Nickerson: I want to thank the members of the House of Delegates for all the courtesies they have shown me. I want to say in this connection that if there is anything I enjoyed during my term of office it is the fact that I have had a great outing; I have been all over the state during my term of office, and I know more now about the doctors than I ever knew before, and I have found out that they are a pretty good lot of fellows; that all you got to do is to rub up against them, get acquainted and they are on the same basis with yourself. Sometimes there may be a difference of opinion how to conduct this or that business, but when we get the pure unadulterated facts, we generally work in harmony. (Applause.)

Dr. A. Augustus O'Neill, Chicago: We should not overlook the fact that Dr. Moyer has rendered great service to the society, and I move that a vote of thanks—a rising vote of thanks—be extended to him.

Motion seconded and carried unanimously.

Dr. C. S. Nelson, Springfield: A few moments ago I was deeply impressed with the beautiful tribute paid by Dr. O'Neill to our former secretary of the State Board of Health, Dr. Egan. I believe there was no action taken on that. Therefore, I move that this House of Delegates as appreciating the valuable services rendered by Dr. Egan during the sixteen years he was connected as secretary with the State Board of Health, and express our deep regrets at his untimely death; and further, that a copy of these resolutions be sent to his family. I move further that a committee of three be appointed by the Chair to draw up suitable resolutions in regard to Dr. Egan.

Motion seconded and carried.

Dr. Charles C. O'Byrne: I move that these resolutions when they are drawn up, be published in THE JOURNAL, and a copy of them sent to the family.

Motion seconded and carried.

The President: I will appoint on this committee Drs. O'Neill, Nelson and O'Byrne.

As there was no further business to come before the meeting, on motion, the House of Delegates then adjourned *sine die*.

ILLINOIS MEDICAL JOURNAL

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JULY, 1913

Editorials

CHANGE IN STYLE OF THE JOURNAL

There are three good reasons for changing the style of THE JOURNAL: appearance, uniformity and economy.

1. Appearance. From a typographical standpoint the new form of THE JOURNAL affords opportunity for a decidedly better specimen of the printer's art.

2. Uniformity. Within the last two or three years the more prominent state journals have changed to a uniform style. Among these are the New York, Michigan, Indiana, California, Kentucky and Texas state journals, and it seems that this is an opportune time for the ILLINOIS MEDICAL JOURNAL to take the same forward step.

3. Economy. By far the best reason of all is the marked saving in the cost of producing THE JOURNAL. In the new form the cost of the cover is entirely eliminated. Also, in the new form the process of folding and stitching THE JOURNAL is done by machine. These two items will result in a yearly saving of approximately \$1,000, which, in view of the depleted state of the finances of the Society, is an item worth considering. The old form not being a standard

size, many of the electrotypes furnished by advertisers did not fit the pages. This necessitated the expense of resetting these advertisements to conform to the odd size of page heretofore used in THE JOURNAL.

DR. BAXTER RESIGNS

It is with sincere regret that we have to announce the resignation of Dr. George Edwin Baxter from the position of assistant editor of THE JOURNAL. Dr. Baxter has served the interests of the Illinois State Medical Society for the past eight years with conspicuous ability and untiring energy, and has endeared himself to an ever-widening circle of friends in the Society. The great amount of JOURNAL work accomplished with promptness and never failing good nature by Dr. Baxter has been a source of wonder and admiration to those who knew the large demands of his practice.

THE VITAL STATISTICS BILL

At a conference of the people interested in birth registration in Illinois, called by the City Club of Chicago, Dec. 30, 1912, a committee on vital statistics was appointed from representatives of the following organizations: Elizabeth McCormick Memorial Fund, Woman's City Club, Federation of Women's Clubs, Bureau of Public Service, Civic Federation, Illinois Public Service League, Board of Education, County Clerks, Chicago Bar Association, American Medical Association, Illinois State Medical Society, Chicago Medical Society, Illinois State Board of Health and the Chicago Department of Health.

A subcommittee drafted a registration bill following the general lines of the Model Bill, but with a few minor changes necessary to meet the conditions of Illinois. Some amendments and alterations were made by the general committee which then adopted the Bill unanimously and forwarded it to the legislature. Senator Cornwell introduced it as Senate Bill 313.

It was passed by the Senate, March 27, and was reported to the House, May 14, where it lay on the Speaker's desk until June 10, although frequent requests had been made that it be referred to the judiciary committee. It was finally referred to the committee on miscellany, which committee, after about ten days, held one meeting, and, in spite of numerous appeals to report it out, referred it to a subcommittee, which, without a single meeting, allowed the bill to die with the adjournment of the session.

While not primarily a medical measure, this registration bill had the endorsement of the Chicago Medical Society and the Illinois State Medical Society, which, at the annual meeting in Peoria, passed resolutions requesting the legislature to enact it into law.

Mr. Speaker, you have the floor; an explanation is demanded by the medical profession in common with the above-named organizations. Why did you hold this important bill for four weeks? A powerful lobby against everything desired by the profession was present as usual. Can you, Mr. Speaker, afford to ignore all the demands by the people for improved vital statistics?

OUR ADVERTISERS

The new Council, recognizing that THE JOURNAL has been the best state journal, feels that it has cost the Society more than the past receipts warranted. The present change in form will reduce the expense, and the change in office of publication will save two or three days time in delivery. The only source of income outside of the membership is the advertising account. A study of advertising rates in various journals showed that our rate was much lower than the rates secured by publications of half our circulation. The rate has been raised to a more equitable figure and it is now up to the members of the Society to "buy from our advertisers" and thus make *your* space more valuable.

EFFECTS OF COMMON DRUGS ON MENTAL EFFICIENCY

In the investigation and censorship of drugs suitable for the armamentarium of the average medical practitioner, it is a serious question whether proper attention is given by the various committees on pharmacy and therapeutics to the effects of these remedial agencies on the mental activities, immediate or remote, of the patient under the care and treatment of the physician. Phenacetin, antipyrin, caffeine and brandy, for example, are no doubt frequently employed as remedies without due regard for their effects on the special senses, the reaction time of the mental processes, the clearness of the association of ideas or the alertness and accuracy of the stream of thought. While physical improvement may be quickly noted as the result of the administration of these and many other stimulating remedies, the conquest of the physician in his battle with disease is far from complete if the ingestion

of these and similar remedies leave a certain train of untoward mental symptoms in their wake—symptoms that exhibit deleterious effects that have been produced either in the cerebral cortex, the paths of association or in the afferent or efferent nerve tracts.

The above was strongly impressed on the mind of the writer while engaged as a research student in Germany many years ago, when he made a series of tests of the effects of the above-mentioned and other drugs on the simpler mental processes of his fellow workers. The principal mental activities tested were:

1. Acuity and accuracy of vision and hearing.
2. Accuracy and tenacity of both visual and auditory memory.
3. Association of ideas.
4. Accuracy and quickness of some of the simpler motor activities.
5. Time-rate of the mental processes.

The mental efficiency, in these various forms of manifestation just indicated, of the various persons serving as subjects of the experiments was tested at a certain specified time each day. Then one of the drugs above mentioned was given and the same mental activities tested fifteen minutes later, and again one-half hour later, one hour later, two hours later and four hours later.

It was interesting to note that, as a general rule, on all subjects undergoing these tests, antipyrin, then extensively used by practicing physicians throughout Germany, had deleterious effects on each and all of the various mental processes under scrutiny—the harmful effects being most noticeable at the one-half hour and the one-hour intervals, these harmful effects wearing off after four hours had elapsed. The patient taking antipyrin every two or three hours had therefore no opportunity to recover from the baneful mental effects of the drug. His elastic energy of rebound had not time in which to assert itself. As a rule, phenacetin within fifteen minutes improved the acuity of vision and hearing, quickened the alertness of the various motor activities, increased the power of attention and memory and shortened the time-rate of the simpler mental processes involved. It was equally noteworthy that in the case of this drug there was no subsequent period of depression of any of the tested mental operations.

Brandy acted as a stimulant in making the subject more alert, more accurate and more fit mentally, but only for a very brief period. After one-half hour the "reaction set in," and all the mental processes involved in the various tests slowed up and became more obtuse. Less alert-

ness, less accuracy, greater inability to concentrate attention, more unlearnedness of association of ideas and greater lapses of memory were definitely manifested.

The more recent studies of the effects of a simple drug—cafein—made independently by Hollingsworth of Columbia University and H. C. Wood of Philadelphia, exhibit a piece of serious, praiseworthy research in this direction. The same scientific methods might well be applied to a wide range of drugs. This field of study has been too long neglected. It is common knowledge that certain narcotic drugs undermine the mental and moral faculties. But what about the effect of many of the drugs in common use on the mental efficiency of patients? There is no more fruitful field of study for the investigator well equipped with the proper degree of knowledge of the mental activities of the normal “undrugged” individual. Much new light, as the result of such research, will be shed on either the pernicious or beneficial effects of various drugs on the mental powers of patients that come under the care of the physician. And, after all, is not a knowledge of the brain and mind depressant drugs almost as essential to the skilled therapist as is a knowledge of the heart depressants?

NEW ENEMIES OF MANKIND — MYCOSES

From times immemorial, medicine as a science was always seeking for new worlds to conquer—“looking for trouble” as the vernacular has it. When general medicine as a whole failed to find the aforesaid trouble, its specialties accommodatingly came forward, furnishing it galore. For a long time we have been acquainted with a variety of fungus, *oidium albicans*, as a cause of a very innocent looking disease, thrush. *Penicillium glaucum* is also an old friend, as an insignificant mold found on a great many articles of food, and even on the walls of our homes. Actinomyces has also been known for a long time as a cause of rather grave ulcers on human skin, and the cause of so-called “lumpy jaw” in cattle. Comparatively recently Gilchrist has found a new variety of fungus, blastomyces, as a cause of very ugly dermatitis. The newest fungus to be found as a cause of disease, namely, sporothrix, was discovered by Schenk in this country and rediscovered by De Beurman in France. This was originally thought to be a cause of a specific skin disease, characterized by formation of gumma-like swellings and ulcers.

So far the fungi have been thought to be rather unimportant, causing but minor troubles, chiefly limited to the skin; but as we go along and study those fungi somewhat closely, we find that the hitherto unimportant organisms prove to be causative factors in decidedly serious, grave disorders. There are cases on record where insignificant *oidium albicans*, the cause of thrush, and *penicillium glaucum*, a fungus absolutely unrecognized as having any pathologic significance, were found to be the cause of grave systemic infections, terminating in death. Blastomyces is now fully recognized to be a cause of almost invariably fatal systemic disease, apart from its skin manifestations. The comparatively little-known sporothrix also begins to assume greater importance when we recognize that it also, apart from the skin gummata and ulcers, may and does invade lungs, liver, spleen, heart, and, in fact, any organ of the body; the disease frequently terminating in death, especially when not recognized early.

To add to the gravity of the situation, those fungi surround us on every side. Blastomyces has been found as an innocent-looking mold on different plants and vegetables which are used by man, and Stober of Chicago has found them as a mold covering the boards lining the walls of some tenement houses in the Ghetto district of Chicago; the houses from which boards were taken, housed several cases of blastomycosis, some of whom have even died, if I remember aright. The sporothrix, as we have mentioned before, capable of producing serious manifestations of the skin and even fatal systemic involvement, is a fairly common inhabitant of vegetables, such as lettuce, carrots, beets, etc. It also seems to be somewhat primordial in its distribution, as De Beurman mentions that it was found growing on a lichen brought from a spot in the Alps until then never visited by a human being.

Most of the diseases caused by fungi seem to be characterized by a formation of giant cells, and gummata-like swellings, and a great many of them, we are sure, are being diagnosed as cases of tuberculosis, syphilis, etc.

In view of the foregoing, it behooves us, we think, to accord somewhat greater attention than we have been accustomed to, to the fungi. The struggle for existence between the host and the parasite is as old as the world. Fungi are well known and well recognized as parasites on other higher plant organisms. It is but recently that we have found them to be also a parasite on the animal; it is true that until very recently their parasitic action and habitat seems to have been

limited to the outside of an animal, at least in most cases; but now, as we see, there are cases when fungus may and does invade the very sanctum sanctorum of an animal host and destroys it. The question is: What varieties of fungi are more liable to become dangerous to the animal host and under what conditions? What are those conditions which make fungus so virulent that it destroys its animal host? Judging *a priori*, there must be necessary some changes in the general metabolism of an animal which would make it a suitable growing medium for a fungus. That in general a normal animal organism is not a good culture medium for a fungus seems to be fairly well proved by the fact that in an enormous majority of instances the fungi seem to prefer the outside of an animal to his inside; and they would certainly spread throughout, if they could in every instance.

Here is a new and enormous field for experimentation, both by pathologists and naturalists in general.

It may not be amiss to mention that it would be very desirable if all the medical men and laboratory men in general, in making cultures of fungi, made use of Sabouraud's culture medium. It would make the methods more uniform throughout the world and make descriptions of the culture perfectly intelligible and possible of duplication, no matter where the cultivation might be made; an investigator in London could read a description of a culture made by a man in Japan or Australia, and he would instantly recognize both the description and the identity or difference in cultivated organisms.

The general practitioner should, on the other hand, more carefully scrutinize all the cases resembling syphilis or tuberculosis, and in doubtful cases call in the assistance of a trained worker, bearing in mind the possibility and gravity of newer varieties of mycoses.

SUPPLEMENTARY REPORT OF THE COMMITTEE ON MEDICAL LEGISLATION

When the report of the Legislative Committee was made at the Peoria meeting, the general assembly had not yet adjourned, so it was impossible to report the final disposition of the bills pending at that time.

As stated in that report, the appropriation for an epileptic colony was passed and the bill signed by the governor.

The vital statistics bill which passed the senate and was referred to a subcommittee in the house, was not afterwards reported to the house for action, so the bill was lost.

The appropriation for the University of Illinois, including that for the medical department, passed both houses and the governor signed the measure on June 24.

The substitute nurses' bill passed both houses of the legislature, and at this time awaits action by the chief executive. This bill provides for a three-year course in nursing before appearing before the state board for license to use the title of R. N.

House Bill No. 229 and House Bill No. 299 known respectively as the osteopathic and optometry bills, did not reach a vote in either house and, consequently, are doubtless disposed of for the term of the present legislature.

Other medical bills referred to in our former report, such as the fee-splitting bill, the bill for a special diploma to practice surgery and others of minor importance failed to receive favorable consideration by the committees to which they were referred.

L. C. TAYLOR, Springfield.

J. V. FOWLER, Chicago.

J. H. BACON, Peoria.

Committee on Medical Legislation.

Springfield, Ill., June 25, 1913.

THE DEATH OF DR. JAMES A. EGAN

RESOLUTIONS ADOPTED AT A SPECIAL MEETING OF
THE ILLINOIS STATE BOARD OF HEALTH,
HELD IN CHICAGO, JUNE 7, 1913

WHEREAS, Dr. James A. Egan, who departed this life on March 30, 1913, was a member of the State Board of Health of Illinois and its Secretary continuously for upward of sixteen years, the following resolutions are hereby adopted:

Resolved, That in the death of Dr. Egan the State has lost its foremost advocate of disease prevention, of sanitary education and legislation, of higher medical education and of reciprocity between the states in medical practice;

Resolved, That the monthly bulletin inaugurated by Dr. Egan—a pioneer in its field—contained articles of unrivalled excellence upon the prevention of disease, the care of children, the care of the sick and other topics, which were almost wholly the product of his pen and were nation-wide in their beneficial influence;

Resolved, That the vigilant zeal of Dr. Egan in his official capacity in eliminating epidemics by

vaccination and the introduction of free antitoxin for the cure of diphtheria, in the instruction of undertakers and the regulation of the burial of the dead, in the instruction and regulation of the practice of midwives and other means, has made human life in the state of Illinois more secure;

Resolved, That the labor of Dr. Egan in making life more secure has increased the population, increased human efficiency, has added to the value of the products of both farm and factory and has been an important factor in the education of the people;

Resolved, That the work of Dr. Egan in the strictness and broadening of the examinations for medical licensure and his relentless enforcement of the inadequate laws against fraudulent and incompetent practitioners of medicine, has placed medical education, medical science and medical practice upon a more exalted plane than heretofore;

Resolved, That the incessant work of Dr. Egan, the absence of relaxing vacations have contributed to his untimely demise;

Resolved, That the undersigned members of the Board mourn the loss of an untiring fellow worker and a much loved comrade and friend;

Resolved, That these resolutions be spread upon the minutes of the Board and that a copy be sent to each of the surviving children.

GEORGE W. WEBSTER, M.D.
President

C. J. BOSWELL, M.D.
RALPH E. NIEDRINGHAUS, M.D.
WALTER R. SCHUSSLER, M.D.
P. H. WESSEL, M.D.
HENRY RICHINGS, M.D.

Attest:

AMOS SAWYER, Acting Secretary.

It is with profound sorrow that we record the death of Dr. James A. Egan, late Secretary of the Illinois State Board of Health, on March 30, 1913, at his home in Springfield, Ill.

Dr. Egan was born in Lowell, Mass., April 6, 1859. He received his early education in the schools of Lowell, and in Trinity College, Ireland. After completing his course in the Irish institution, he returned to the United States where he pursued a course of study in a Yale business college, from which institution he was graduated. He subsequently entered the regular army, serving for several years in the Quartermaster's Department. Becoming interested in the study of medicine, he matriculated at the Chicago Medical College, now the Northwestern University Medical School, from which institution he graduated in 1893. He engaged in the practice of medicine in Chicago immediately after his grad-

uation, and in 1894 he became a sanitary inspector of the Chicago Health Department. Here he was rapidly promoted and was given charge of the department of disinfection at the time when formaldehyd was in its experimental stage, and he also supervised the early public use of antitoxin in the cure and prevention of diphtheria.

In 1897, Dr. Egan was appointed a member of the Illinois State Board of Health by Governor Tanner, largely on the recommendation of the late Dr. John B. Hamilton, former Surgeon-General of the United State Public Health and Marine-Hospital Service. He was elected Secretary of the Board, served during the remainder of Governor Tanner's term and was reappointed by Governor Richard Yates, serving as a member and secretary throughout the four years of Governor Yates' administration, and also throughout the eight years of Governor Deneen's administration, and three months of Governor Dunne's administration.

Dr. Egan held the secretaryship of this Board for nearly sixteen years. During that period many important advances have been made in Illinois in the prevention of disease, the raising and improving of medical educational standards, suppressing fraudulent and low grade medical schools, the securing of desirable and the defeat of undesirable legislation affecting the welfare of the people and the medical profession, in all of which is plainly seen the untiring energy, loyal devotion and the guiding hand and brain of Dr. Egan.

Among the more important accomplishments of the State Board of Health during his long administration, and especially since the enactment of the present Medical Practice Act, July 1, 1899, the following are worthy of permanent record and are achievements in which the people, the profession and the Board have just grounds for pride:

1. The enactment of the Medical Practice Act in 1899.

2. The abolishment of the "diploma mills" of Chicago, which had caused such chagrin and mortification to the people of the state of Illinois, and which had caused the *London Lancet* to remark that Chicago conferred degrees with the same ease and facility with which she killed hogs.

3. The enactment of a law permitting the summary dissolution of medical colleges violating the terms of their charters.

4. The act regulating the practice of medicine is, we believe, better enforced in relation to the practice of unlicensed physicians, midwives, itin-

erant vendors, while in force, and other practitioners, than in any other state in the Union.

5. The enactment of a law amending the 1899 medical practice act so as to provide for a higher standard of preliminary requirements, for reciprocity, the establishment of improved methods of examination, whereby it is impossible for one physician to take the examination for another, and whereby it is difficult, if not impossible, for a candidate to use unfair methods in the examination.

6. The enforcement of standards of preliminary education in medical colleges.

7. The allowance made to physicians for years of practice, thus doing away with the injustice of requiring the graduate of 1890 and the graduate of 1910 to be governed by the same requirements.

8. The successful opposition in the General Assembly of measures designed, not only to jeopardize the interests of the lives and health of the people of the state, but to interfere with the rights and privileges of licensed physicians who have qualified under the various medical practice acts of Illinois.

9. The enactment, in 1899, of laws whereby osteopaths who are properly qualified, are given an opportunity to take an examination, and to receive a certificate if they pass the examination, thus preventing the creation of a state board of osteopathic examiners, or the recognition of osteopaths by the state of Illinois, or the placing of an osteopath on the State Board of Health, as has been done in Kentucky and New York, or upon the State Board of Medical Examiners, as has been done in several of the states of the Union.

10. The adoption of rules and regulations governing the transportation of the dead.

11. The adoption of rules and regulations requiring the examination and licensure of embalmers and the subsequent enactment, in 1905, of a law to this effect.

12. The supervision of the cubic air space and certain general sanitary conditions in lodging houses, taverns, inns and hotels in cities of 100,000 and over.

13. The enactment, in 1901, of a law requiring the reports of births and deaths.

14. The enactment, in 1903, of a similar law, minus the burial permit feature, when the 1901 act was repealed.

15. The maintenance of a department of vital statistics for the registration of all births and deaths reported to the State Board of Health, and for the compilation of statistical data essential

to the proper and intelligent supervision of the public health.

16. The obtaining of a material increase in the appropriations of the State Board of Health. Here it may be noted that when Dr. Egan came on the State Board of Health in 1897, the biennial appropriation of the Board amounted to \$28,000. In 1907 this appropriation was increased to \$110,200.

17. The securing of an appropriation for the care of indigent persons bitten by rabid animals.

18. The securing of an appropriation for the free distribution of diphtheria antitoxin, for the purpose of preventing the spread of a dangerously communicable disease.

19. The sanitary investigations of the water-supplies of the Illinois, Mississippi and Missouri rivers, conducted (1899-01) prior to and after the opening of the Chicago Drainage Canal. The *Chicago Chronicle* said that this work was certainly more interesting, and probably more important than any heretofore achieved by the Board, and the *Record-Herald* stated that the Board had "furnished the most conclusive testimony in favor of the contention of Illinois in the Supreme Court of the United States that had ever been presented."

20. The chemical and bacteriologic investigations of the water-supplies of every city in the state of Illinois.

21. The prompt suppression of the epidemics of small-pox which have occurred in the state since 1898.

22. The establishment of a system of sanitary inspection whereby any physician in doubt as to the diagnosis of a supposedly communicable disease in his practice, or any municipality or township desiring assistance or counsel from the State Board of Health, may obtain the services of a trained sanitarian, within a few hours, or as fast as the train will take him there. Here we might refer to the enactment, in 1901, at the instance of the State Board of Health, of a law creating boards of health in townships and counties. Previous to 1901, there were no legally constituted boards of health in townships or counties. Dr. Egan made an attempt to remedy this defect in the law in 1899, and got the bill through the Senate and to the third reading in the House, but unfortunately it failed to come up on the last evening of the session in the House.

23. The prompt assistance rendered to municipalities and townships whenever the State Board of Health is called upon for such assistance.

24. The establishment of a laboratory in 1904.

25. The campaign of education and the practical work done by the Board in the prevention and suppression of pulmonary consumption. Much might properly be said about the circular issued by the Illinois State Board of Health on "The Cause and Prevention of Consumption," which is now in its eighth edition, having been originally issued in 1904. But space does not permit more than a brief reference to this circular, which has been favorably commented upon at home and abroad, and which has been accorded the highest praise by medical journals. In 1908 the Board of Education of the state of Massachusetts wrote to the Illinois State Board of Health, asking for the price of its circular on "The Cause and Prevention of Consumption," in order that it might be distributed in the state of Massachusetts, the Board of Health of Massachusetts not publishing a circular upon this disease.

26. We might refer also to the various circulars issued by the Illinois State Board of Health. These circulars are issued in editions of sufficient numbers to meet the requirements for reasonable periods of time, and are frequently revised to keep pace with the growing knowledge on the various subjects. They are, of course, widely distributed.

27. The publication of a monthly *Bulletin*, through which the members of the medical profession are kept advised of the work done by the State Board of Health, and are not required to wait as in many states for the publication of an annual report, containing the information desired—which report is frequently published a year or more after the date it is supposed to cover.

28. The prompt establishment and maintenance of inspection and quarantine service in Cairo in 1905, when yellow fever threatened Southern Illinois.

29. The prompt investigation into the prevalence of pellagra in Illinois, in 1909, and the publication directly afterward of three *Bulletins* on the subject, reports of which have received praise from medical journals, including the *London Lancet*.

Dr. Egan was a member of Saint Paul's Episcopal Church, Springfield, the American Medical Association, the Illinois State Medical Society, the Sangamon County Medical Society, the American Public Health Association, First Lieutenant in the Medical Reserve Corps of the United States Army, and was also a Thirty-Second Degree Mason and a Knights Templar.

In 1887, he came to Chicago, where he married Miss Lillian Beatrice Skidmore in 1889. Mrs.

Egan died in January, 1910. He is survived by three sons, Ellis P., Harold H., and Sidney B., and two daughters, the Misses Marian Grace and Dorothy Alice Egan, and one sister, Mrs. H. V. Hunt of Peabody, Mass.

We believe that the living will carry forward the work which the dead man loved and to which he devoted his life.

Society Proceedings

CLARK COUNTY

The Clark County Medical Society met at the St. Charles Hotel, Casey, June 12, 1913, at 2 p. m. Members present: Marlowe, Pearce, Duncan, McCullough, S. C. Bradley, Haslitt, Weir, Hall, Johnson, Rowland and Mitchell. Visitors present: Dr. Buckmaster, Effingham; Dr. Stoltz, Dr. Rodgers and Dr. Heywood.

Dr. Buckmaster, by invitation, gave a very interesting address on "Metastatic Infection," speaking first of the importance of the lymphatics in this condition, mentioning the tonsils and other lymphatics of the throat and their infections. Called attention to the great frequency of ear inflammations and defective hearing and anemia resulting; to rheumatism, tuberculosis, heart infections, etc., usually following tonsil infection. Then spoke of absorption from infected gall-bladder, appendix and prostate gland, the metastases following typhoid, scarlet fever and other infections, causing nephritis; the frequency of colon bacillus infection of fallopian tubes, practically all joint infections being secondary from slight lung tuberculosis or other infection in other organs. Toxins may cause the joint affection, not germs. Skiagraphs were shown, illustrating same.

The treatment in all metastatic infections, is of course, to remove the primary trouble: diseased tonsils, appendix, etc., or vaccines.

Dr. Weir, in discussing the address, complimented the speaker and congratulated the members on the privilege of listening to such an address on such an important subject. Spoke of the great protection of the body by the leukocytes and the importance of keeping in good health. That tuberculosis usually, if not always, affects many organs and not one or two only.

Dr. Hall recited a case of heart disease cured by appendicitis operation, which seems to show that removing the cause cured the metastasis.

Dr. Johnson considers that we must, by modern methods, determine exactly what the infection is and not have rheumatism and malaria cover so many cases. Dr. Marlow reported a case of threatened puerperal eclampsia at eighth month of pregnancy, patient having headache, spots before eyes, edema, abundance of albumin in urine, improves on salines, etc., but soon relapses. A lengthy discussion followed, in which it was suggested that possibly the normal increase in the physiologic action of the thyroid in pregnancy is lacking and the thyroid extract might do good. That to keep the skin, bowels and kidneys acting as well as possible, by laxatives, baths and diuretics with rest in bed, milk diet, but little drinks and no salt, would probably enable the woman to go to term, but if

serious symptoms appear, premature delivery was recommended.

Dr. Rowland reported a case of cystitis, which is very troublesome to the doctor, as well as to the woman. The discussion was interesting, bringing out the facts that cystitis, with persistently acid urine, is either tubercular or colon-bacillus infection; that in tubercular cystitis irrigation and especially irrigation with silver solutions, do no good and often make conditions worse, which seemed to be the case here; that minute chemical and microscopical examination of the urine might throw light on slow, difficult cases. Case was considered to probably be tuberculosis of bladder and possibly of the kidneys.

Dr. William H. Rodger's application for membership was presented. Rules of the society suspended and he was elected to membership at once.

Dr. Weir made a report of the meeting of the state medical society at Peoria, last month.

A rising vote of thanks and appreciation was unanimously extended to Dr. Buckmaster for his visit to our society, his excellent address and social, friendly intercourse with us. Dr. Buckmaster, in response, spoke of team work among doctors in towns of two or more physicians, one to do laboratory work for all, another to do surgery, etc.; that the general practitioner cannot cover the whole field of medicine thoroughly and said it has become necessary that doctors go into politics not for selfish motives, but for the welfare of the public, that much money and effort is spent on hogs and stud-horses and very little to conserve the health and lives of the people of our state, which is a very important thing, as all can see when attention is directed to the subject.

Society adjourned L. J. WEIR, Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

No Meeting May 21, 1913

Regular Meeting May 28, 1913

A regular meeting of the Chicago Medical Society was held May 28, 1913, with the following program:

1. "Mechanistic Theory of Disease." (By invitation.) George W. Crile, Cleveland.
2. "Lymphangioplasty Wound Under Local Anesthesia." (By invitation.) John R. McDill, Milwaukee.

Regular Meeting June 4, 1913

The program of this meeting was as follows:

1. "What Chicago Is Doing for Her Deaf Children." (By invitation.) Mary McCowen, Head of the Deaf Oral Department, Chicago Normal School.
2. "Remarks on the Pathology of Deaf Mutism." Norval H. Pierce.

Regular Meeting June 11, 1913

The program follows:

1. "The Digestive Symptoms of Pellagra." (By invitation.) Seale Harris, Mobile, Ala.
2. (a) "Lumbar Drainage in a Case of Hydrocephalus. Utilization of Myelocoele for Drainage Tube." Lantern Slides.
- (b) "Congenital Absence of Anus and Rectum, with a Report of a Case and Autopsy Findings. Suggestions as to the Failure of the Usual Operations for the Condition. Hypothetical Operation." Lantern Slides. (By invitation.) H. P. Cole, Mobile, Ala.

No Meeting June 18, 1913

CHICAGO OPHTHALMOLOGICAL SOCIETY

Regular Meeting, Monday, April 21, 1913

The president, Dr. Willis O. Nance, in the chair.

A CASE OF PRIMARY SARCOMA OF THE CORNEA

L. W. Dean: Three months before being seen, April 24, 1912, the patient, a woman aged 63 years, noticed a brownish flat growth on the cornea of the right eye, which had increased somewhat in thickness. There was no pain but vision failed rapidly. The tumor apparently grew from the anterior surface, was of light rust color, very vascular, 5 mm. in vertical and transverse diameters and the apex 2 mm. above the surface. It occupied the central portion of the upper half, extending a little below the median line, but having above 1 mm. of clear corneal tissue, traversed by numerous blood-vessels. The tumor was enucleated April 26, 1912. Microscopically the tumor was found by Prof. Henry Albert to be a cellular mass of tissue, not covered by epithelium, but overlapped at the edges by the epithelium of the cornea. It was well defined from the corneal tissue but there was nothing to suggest capsule formation. The corneal epithelium was absent beneath, but Bowman's membrane was intact except in the center and the substantia propria at this point was slightly infiltrated by the tumor. The cells were large, round or oval, oat-shaped and some slightly spindle-shaped, with mitotic figures numerous, and a few cells containing finely granular yellowish pigment suggesting melanotic sarcoma. Blood-vessels were numerous and were surrounded by small lymphocytes. Collagen intercellular fibrils were shown by Van Gieson's and Mallory's stains; fibroglia fibrils were also present. Diagnosis, sarcoma, originating entirely from the cornea, probably from the superficial layers of the substantia propria.

Dr. Derriek T. Vail, Cincinnati, reported a case in which a diagnosis of melanosarcoma of the cornea had been made by the junior ophthalmologist in the Cincinnati Hospital, Dr. Wooley. Dr. Vail had diagnosed it as a soft fibroma. The anterior elastic membrane of the cornea was not invaded; it was a purely epithelial growth and seemed to spring from the usual site of a pterygium. It had extended entirely across the pupillary area and the pupil could only be seen by looking obliquely under the tumor mass, which was fungoid and dark in color and was easily stripped from the cornea. It is now nine months since the tumor was removed and the cornea is perfectly clear, with no evidence of return and no scar.

Dr. J. E. Colburn reported a case in which he removed what was supposed to be pterygium from the inner canthus. In a few months it had returned and covered an area three times its original size. It was removed again and in about six months the patient had an irregular swastika-shaped tumor over five-sixths of the entire cornea. It was determined after its first removal that it was a melanosarcoma. It was removed with a white-hot electric needle or euret, going over the entire surface of the cornea and burning it quite deeply. Recovery was uneventful and prompt. It was removed ten years ago and the patient, a physician, was seen a few weeks previously, when that eye gave the best vision and there was no scar on the cornea. The method was suggested by an operation in Dr. Greenleaf's clinic in New York.

Dr. C. H. Francis said the question to decide is whether the growth is malignant. From the morphologic appearance it is impossible to determine the origin of the cells. They are epithelial cells smaller in type and simpler than the epithelial cells proliferating in carcinoma. Many of them show that they are not undergoing differentiation and the question is as to their origin. Von Recklinghausen would say they are epithelial in origin, and Unna would pronounce it a nevus in the conjunctiva. He claims to have found that the outlying foci show connection with the surface epithelium, and in opposition to Von Recklinghausen's theory most of these cells are arranged vertically and not horizontally, as they would be if they rose from the lymphatics. Ribbert, on the other hand, claims they originate from the connective tissue cells. All these questions are important to determine in pigmented nevi that show proliferation. If we follow Unna, it is a carcinoma. If Ribbert's theory is right they must be classed with the sarcomata. This case shows the connective tissue cells proliferating, but they are in the same horizontal meridian as the blood-vessels and may have originated from the vessels. We know, too, that epibulbar carcinoma and sarcoma are both very vascular. Labor and Parsons believe that when a nevus cell becomes malignant it is carcinoma. On the other hand, Fuchs says without reservation that if a nevus cell becomes malignant it always develops into a sarcoma.

Dr. Oliver Tydings referred to a case reported by him to the Mississippi Valley Medical Association in 1894 in a man 75 years old. He advised removal of the growth on the cornea. As he couldn't guarantee the integrity of the globe after removal, operation was refused. Three or four months afterward the patient came back with large and painful ulcer, which wasn't very vascular. It was dissected out and sent to the Columbus Laboratory, where it was reported to be a melanosarcoma, not very vascular. He did not report that as a primary sarcoma of the cornea, a neoplasm which he believes is very rare. He had hunted up the literature and at that time could find no report of a case in this country. A few cases were reported by Parsons, all foreign, some questionable. It was reported by him as a sarcoma of the anterior segment of the globe. Fifty years before the man had got a wheat beard in the eye and had had a sore eye for a long time. There was one spot which Dr. Tydings did not succeed in removing. He believed the man had suffered a perforation of the cornea and iris prolapse and later this growth had started. The cornea was clear all around. Vision three years ago, five or six years after removal, was 20/20. There had been no recurrence.

Dr. L. W. Dean emphasized the fact that the tumor at its nearest point was separated 1 to 1.5 mm. from the sclerocorneal junction. It was removed a year ago. As Dr. Tydings has said, primary sarcoma of the cornea is exceedingly rare, and consequently Professor Albert was careful before making a definite report on the structure of the tumor.

CONICAL CORNEA

Dr. J. R. Hoffman reported a case of conical cornea complicated by ulcer right cornea in a girl aged 15 years, who had had bulging of right cornea for several years. June 14, 1910, it began to be inflamed. Examination shows large conus of right cornea protruding between lids and a large deep ulcer of the apex of cone

with Descemet's membrane presenting. Left cornea moderately conical. R. V. perception. L. V. 20/200 with no improvement with lenses. Right eye atropinized and ulcer cauterized with galvanic cautery. Pressure bandage and atropin instilled. June 29, 1910, ulcer still being unhealed, used galvanic cautery again. July 14, 1910, ulcer healed, cornea markedly flatter. Ordered dionin, 5 per cent., twice daily, continued atropin, leaving off bandage. Continued dionin in increasing strength until patient was using 20 per cent. ointment at home every other day and powder in the clinic once a week. Atropin 1 per cent. until Sept. 13, 1910, when inflammatory signs and tenderness had disappeared. Vision at that date was R. 20/200, L. 20/200, no improvement with lenses. Opacity of cornea steadily decreased from at least 8 mm. in diameter to present size, till about a year ago since when it has remained stationary. At present time, R. V. 20/200, L. V. 20/200, no improvement.

In a case of dislocation of the lens reported by Dr. Lloyd, his method of getting the lens into the anterior chamber was interesting. The lens had been dislocated and had gone back into the vitreous. He had the patient in the hospital on his face with the hope that the lens would come into the anterior chamber, without effect. He then had the patient make a number of forward quick bowing movements which brought the lens into the anterior chamber, from which it was extracted.

Dr. Oliver Tydings, referring to conical cornea, reported the case of patient some years previously with injury to the cornea which under the slightest provocation would rupture. In that case he tried an elastic bandage, the patient at first wearing it all the time, with a small pad underneath, and for about eighteen months at night only. This condition had been existing for five years and constantly recurred. Several years after this treatment there had been no recurrence of rupture of the cornea. He certainly would resort to that treatment before adopting anything more heroic.

ECTROPION OF LOWER LID

Dr. Frank Brawley reported for Dr. Frank Allport a case operated on by the latter for extensive ectropion of the lower lid. The operation consisted in taking a long flap from the temporal region, leaving it attached by a pedicle, and swinging it to the lower lid which had been prepared beforehand. An incision was made just below the lid margin, the lid raised and the flap sewed into this open space left by the incision. On one side the tip of the flap sloughed and the result was not quite as perfect as on the other side. The man was suffering from a deeply injected conjunctiva from the exposure, and corneal ulcers. He is now able to close the eye, and Dr. Allport proposes to raise the lid still further, and do a blepharoplasty on the left eye where, at the outer canthus, the closure is not complete.

CORNEAL MICROSCOPE

Dr. H. S. Gradle exhibited a corneal microscope which had been constructed from the tubes of an ordinary ophthalmometer. The ophthalmometer is essentially a telescope or microscope with a pair of birefringent prisms. The conical tube shown contains the prism and the objective. This is pulled out and another tube without the prisms is substituted for it. The ordinary high power loupe is rather insufficient to examine the cornea and the anterior aspects of the

eye because of insufficient illumination. With the modification of the apparatus as described all that is necessary is to add a lighting apparatus. With an eight-candlepower light from an ordinary circuit anything from direct illumination to completely oblique illumination can be obtained. The instrument is a diagnostic instrument. One cannot work around the shield of the

INDICATIONS AND CONTRA-INDICATIONS FOR VACCINE THERAPY

Dr. Adolph Gehrman read by invitation a paper on the "Indications and Contra-Indications for Vaccine Therapy." A vaccine is an attenuated virus that will produce a mild infection, but enough to protect. It may be attenuated in many ways, but it remains a

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ophthalmometer, but the instrument can be used for the diagnosis of conditions of the cornea, anything in the anterior chamber, iris, conjunctiva, sclera or anterior surface of the lens. This will give about 10 diameters of magnification. An attempt is being made to increase the magnification, but it is not satisfactory yet. It can be attached to any ophthalmometer based on Schiotz's method.

virus as long as it is alive. The preparations usually used are not true vaccines, but constitute a toxin therapy that is of most variable character. The principle involved is the stimulation of natural resistant activities by which invading bacteria are overcome. Two possible conditions obtain—where the parasite is slowly invading and immunity is not being developed fast enough to stop its advance, and second, where the

tissues have become accustomed to the presence of the parasite and are only moderately disturbed, not sufficiently to discharge the parasite. Vaccine therapy differs from vaccination, in that it is apparently adding to the infection. Vaccination is of no value after infection is begun, but vaccine therapy is useful where the infection with a mild parasite has become subacute, where the infection is on the surface and has not become completely discharged, and where the infection recurs because of a short immunization period. Toleration may be established, in which state the host is not sufficiently stimulated to dispose of the parasite. Mixed infection usually ensues, with final recovery owing to overgrowth of one species, until finally saprophytes remain, to be finally discharged. In surface infection absorption of toxins is slow and antigens do not reach the circulation, and sufficient resistance is not stimulated until vaccines are given. Short immunity is due to low opsonic index, which may rise but falls again with recurrence. Shotgun methods should not be used, but a bacteriologic diagnosis should be made so that the system may not have to destroy unnecessary toxins. To an extent the procedure is specific, but not absolutely so. Cases should be selected by the rate of advance of the infection, the degree of reaction to the infection and the stage to which it has advanced. Applied early in slowly increasing invasions, rapid abortion of the attack may be induced. The application is indicated when the patient is not reacting against the infection. In recurring infections the short immunity period may be extended by vaccines, as in general mixed mucous membrane infections of the respiratory passages. The contra-indications to vaccine therapy are, rapid fulminating infections, confined infections, whether the patient is reacting or not, which should be drained; old chronic infections with a mechanical feature interfering with recovery; cases that have been absorbing excessive toxins; cases in which there is an underlying nutrition defect, which in itself prevents formation of immune bodies. If there is not at least a moderate reaction after injection the vaccine is not right, and if there is not early evidence of recovery some other treatment should be used. In principle, it may be said, the nearer the natural conditions of virulence are represented in a vaccine the more certainly will the normal defense be stimulated.

A RÉSUMÉ DE PERSONAL EXPERIENCE WITH VACCINE

Dr. William A. Mann: Based on two years' experience with private cases Dr. Mann had previously made two reports with vaccines in phlyctenular keratitis, corneal ulcers, non-specific iritis, chorioiditis and uveitis and penetrating wounds of the eyeball. His conclusions then were that a mixed vaccine of staphylococcus and streptococcus was of decided benefit, and at this time, three years later, feels still more confidence in such vaccines in the diseases mentioned. In the diseases named, due to endogenous infection, it was hardly feasible to make an autogenous vaccine, but in some the offending germ could be obtained by paracentesis. Therefore the mixed vaccines were mostly used. In phlyctenular conjunctivitis improvement was rapid and there was seldom a return. In phlyctenular keratitis healing of the ulcers was hastened, but the most decided results were obtained in the chronic type. One injection was usually sufficient, with a second to assure the cure. In one case of tubercular type improvement was not rapid nor permanent, but improvement was noted always after vaccine. Tuberculin in

addition was advised. In episcleritis the inflammatory signs disappeared after one or two injections. In non-specific iritis, if given in the early stage, pain is increased for twelve to eighteen hours, when improvement begins. Either abortion or shortening of the disease occurs. Chorioiditis was treated in only a few instances. There was improvement in all cases of uveitis except one, which did not return after the first injection. Vitreous opacities and deposits on Descemet's membrane are not much influenced. They are due to endogenous infection from a focus elsewhere in the body, as the intestines, nasal sinuses, mouth, vagina, gall-bladder, etc. According to S. Mayou staphylococcus is responsible for most cases. In cases in which tuberculosis was present improvement was not so rapid. The vaccine has been used as a prophylactic in traumatic operative cases, cataract in rheumatic patients and iritis. It does not always prevent cyclitis. The adult dose is 30 million streptococcus, and 100 million each of *Staphylococcus albus* and *aureus*. A smaller dose for women and a proportionate dose for children, given at three- to five-day intervals, gradually increased. The local reaction never goes on to suppuration, though it may be severe. Fresh vaccines cause greater reaction. The preservative may cause some smarting. The treatment need not interfere with any other treatment.

THE DIAGNOSTIC REACTIONS IN THE DIAGNOSIS OF GONORRHEAL DISEASES OF THE EYE

Dr. Ernest E. Irons said he wished to discuss under this title the reactions which we at present have command of which will be of value in seeking a diagnosis of gonorrheal infections of the eye rather than to advocate any particular reaction. He understood from ophthalmologists that there are a large number of lesions of the eye which up to recent years have been extremely obscure in their etiology, aside from the conjunctivitis of gonorrheal origin in which there is little doubt of the diagnosis, such as certain cases of metastatic conjunctivitis or ophthalmia; cases of iritis which have been ascribed to rheumatic causes, and it seems probable that a certain proportion of these are due to bacterial infection of metastatic or embolic source. There is also a rather similar nomenclature in dealing with the joints, and some of their features are similar to those of some of the obscure cases of iritis. Some years ago many arthritides in which the etiology was not definitely made out which went on to more or less destruction of the joints were classed as arthritis deformans, and it was assumed that nothing further could be done aside from general supportive treatment, diet, etc. Now gradually that large class of arthritis is being cut down by taking out here and there cases which are believed to be of infectious origin and that there is some focal infection responsible for the invasion of the avascular structures such as the serous membranes of the joints, and many of these are gonococcal, and likewise many cases of obscure iritis have been pretty conclusively proved to be of gonococcal origin. And here the question is whether they are of toxic origin or of metastatic origin. The same question has been raised with relation to the joints, and the more the question is studied the more we are convinced that they are of metastatic origin. In a case, for instance, in which iritis and arthritis have developed within a short space of time there is no reason why we should ascribe a toxic pathology to the iritis and a

metastatic pathology for the arthritis. It is frequently possible to isolate the gonococcus from the joints or from the circulating blood. So that while Dr. Irons had no personal experience in the study of these conditions in the eye he felt that we should not assume a different pathology for the eye than for the joints. Therefore for purposes of discussion we say that a gonococcal infection of the eye means that there has been a more or less general infection of the system. There may be no other evidence than possibly the joint and a slight fever; nevertheless the infection may be assumed to be demonstrated.

This then raises the basis for the utilization of certain immunologic reactions which have been developed in recent years for the diagnosis of gonococcal infection. As in tuberculous infections we have a general reaction which can be elicited by the introduction of comparatively large doses of toxic material from gonococcal cultures. These give rise to malaise, headache and a certain local reaction at the site of injection, together with a focal reaction in the affected part. Such reactions are not constant in gonococcus infections, but occur with sufficient frequency to be of some value in diagnosis. Then there is the local subcutaneous reaction which may be obtained by a smaller dose subcutaneously. A small dose in a normal individual will produce little or no reaction; in an infected individual a more extensive reaction. This line of diagnostic work has been followed out pretty carefully in the German clinics in the pelvic affections of women and has been found to be of considerable value as confirmed by operation. Then there is the cutaneous reaction which can be demonstrated as in tuberculosis after the method of von Pirquet. While there are certain disadvantages which rather decrease the value of this method as a single diagnostic agent, still there are certain advantages in the study of the patient by the cutaneous reaction in the use of glycerin cultures of the gonococcus and by repeated tests we can determine that the immunity curve is not constant but goes up and down, and that the exacerbations of joint lesions and the temperature are coincident or follow shortly after a period of low cutaneous reactivity. The third method by which we may obtain diagnostic information in septic cases is by the method of complement fixation, and this method is being followed out with rather satisfying results during the last two or three years. The complement fixation test uses the hemolytic system reaction similar to the Wassermann reaction test. In place of the syphilitic antigen from the liver or extract of guinea-pig heart as the antigen there is substituted a gonococcal extract, and by performing the reaction with care fairly reliable results can be obtained. A fourth method by which we can identify rather obscure cases of gonococcal infection is by the cultural method of the various secretions, particularly those of the prostate. Although it is rather not the rule in urethral infections, the prostate may remain infected for a long time, and certain metastatic manifestations in the joints are merely expressions of metastasism of the organisms passed into the bloodstream and lodged in certain vulnerable spots. So that in cases in which the etiologic factor is not evident we may apply these four tests and in a certain proportion obtain positive results in cases due to gonococcal infection.

Dr. A. Gehrman, in closing the discussion, said in reply to the point raised by Dr. Mann as to the irrita-

tion caused by the injection, that he had not found carbolic acid in small doses particularly irritating. He had used many injections on himself in throat infections and there was no irritation that he could attribute to the vaccine. Dr. Mann said he referred to the smarting or burning after the injection, not to irritation. Dr. Gehrman thought that after a few hours there would be a smarting, but that he would suggest diluting the vaccine just before use with salt solution. Carbolic acid and tricresol are generally used as preservatives.

Dr. Wm. A. Mann said he was interested in Dr. Irons' statement that the gonococcus might be the cause of recurrent iritis cases. He had had cases that he thought were, until in a number of them the eye reddened up with deep ciliary congestion, which subsided nicely under atropin, and two or three days later the other eye would do the same thing. In such cases he had used a mixture of gonococcus and staphylococcus, but he thought the improvement occurred before the vaccine had any effect, although it might have had effect later.

Dr. E. E. Irons said he wanted to second what Dr. Gehrman had said about the unscientific and irrational methods of treating infections by certain toxic products which are used very largely at present. We can produce the same reactions and the same symptoms of toxemia in animals by the injection of putrid matter from broth containing any sort of organism, and the mere fact that a febrile reaction, with perhaps nausea and vomiting is obtained does not argue for the specificity or effectiveness of an agent.

Dr. Wm. A. Mann asked Dr. Gehrman whether he had used these vaccines by spray for the local effect. Dr. Gehrman said he had seen reports of their use in that manner but did not know anything about such use.

A STUDY OF SOME FORMS OF CONGENITAL CATARACT, WITH SPECIAL REFERENCE TO THEIR CLINICAL SIGNIFICANCE

Dr. Derrick T. Vail traced the embryonic development of the lens vesicle from the ectodermic layer and its subsequent inclosure by the mesoderm before and behind which goes to form the structures in front of the lens and the vitreous behind; the formation of the lens nucleus from the cells springing from the posterior layer of the lens vesicle, and cortical fibers formed from the cells lining the anterior capsule. He said that all forms of congenital cataract are due to some hitch or break in the orderly sequence of the process of normal lens building. Congenital aphakia is rare and is due to a failure of down-growth of the surface epiblast. Congenital nuclear cataract is due, according to Collins and Mayou, to delayed closure of the anterior wall of the lens vesicle. Congenital fibrous tissue cataract is due to failure of the posterior capsule to form in whole or in part. Congenital disk-shaped cataract is characterized by a glittering white, round or star-shaped spot in the pupil space, occupying the anterior substance of the lens as a form of anterior polar cataract. The eye is usually strabismic and markedly nystagmic of the slow rotary type, and is amblyopic, mostly from microphthalmus. Prognosis as to vision after removal is not good. The white spot can be picked out, leaving a lens like a ring doughnut, the ring part being clear. A needling operation is contraindicated, but Smith removes the lens with an

iris forcep after an iridectomy. An iridectomy while not as good as total extraction is recommended in preference in the case of very young children. Congenital Morgagnian cataract is found in a small eyeball, with voluntary nystagmus, disassociated vagrant strabismus, a uniform milky, opaque pupil, the cataract being flush with the plane of the iris, presenting a dirty-white or yellowish-white appearance, with vision reduced to light perception. If such a lens is pricked with a needle a milky fluid floods the anterior chamber. It is due to absence of the formation of cortical fibers from the anterior capsule and a disintegration of the cells of the lens vesicle. Axial fusiform cataract is due to displacement of the lens nucleus forward or backward in the embryo. Triradiate form of congenital cataract, usually just in front of or behind the nucleus, indicates the original suture lines of the early cortex fibers. Originally these lines are near the periphery of the lens cortex, but as time passes they are gradually forced to move toward the nucleus by the later formed cortex fibers growing from the lining cells of the anterior capsule. The coralliform axial cataract is a congenital form presenting in the axis of the lens structure knotted or irregular bosses not unlike coral formation, and are difficult to explain embryologically. All forms of congenital cataract are apt to be associated with microphthalmus and congenitally deficient retina due to lack of differentiation of the macula lutea. If there is any clear space in the pupil area so as to permit the retina to functionate, operation may be deferred and later an iridectomy may be done on the side best suited as indicated by the strabismus. A rotary voluntary nystagmus also indicates an iridectomy. If there is quiet, steady fixation in the effort to see, an iridectomy will not improve vision as the same axis of fixation will be used by the child. Needling in the above forms of cataract with glittering opacities would be contra-indicated because they are insoluble, permanent and irritating when liberated from their natural position, and also because microphthalmus almost always being present infantile glaucoma may occur, owing to imperfect formation of the spaces of Fontana. Congenital punctate cataract is characterized by round opaque white dots located in the cortex fibers usually in the equatorial region. The eye is full sized and vision is normal, and they have no pathologic significance. They may be due to granular degeneration of cortex-lens fibers. Zonular cataract may or may not be congenital. They are believed by Collins and Mayou to be due to some general disturbance of nutrition as they are bilateral and frequently associated with fits in infancy, rickets and defective condition of the teeth. It is not rare and is easily diagnosed by the aid of the red reflex through the dilated pupil and focal illumination, aided by the binocular loupe of Berger or Zeiss. The nucleus and cortex are clear, but surrounding the nucleus is a zone of opacification due to the presence of tiny vacuoles in the lamellar structure of the cortex surrounding the nucleus. Such cataracts lend themselves to the needling operation with the best prospect. Iridectomy need not be performed and the soft cataract substance formed may be evacuated through a small keratome incision. Needling in the other forms of congenital cataract is not good treatment.

Dr. H. S. Gradle said that unquestionably some of these symptoms of congenital cataract must be of toxic origin. This was recently shown by the work of

Pagenstecher and Oxenfeld who fed rabbits with beta-naphtholin and 90 per cent. of the offspring showed congenital cataract followed by opacity of the capsule. This, of course, must be of toxic origin. This was also associated with glaucomatous conditions of the lens and the iris particularly. The condition of the lens was explained by an endarteritis of the hyaloid artery and the long artery coming in over the optic pit. They come together before they should and form a band through which the lens cannot develop. A notch is cut out of the lens, and these things are associated with the various forms of congenital cataract which Dr. Vail has spoken of.

Dr. W. A. Fisher said that we had all been taught that Col. Smith always does an iridectomy with cataract extraction, and Dr. Vail has told us that he operates as early as twelve months by the intracapsular method. He would like to have him tell what treatment Col. Smith uses in the simple extraction in these early cases.

Dr. Derrick T. Vail said in closing that in the paper he had stated that the iridectomy operation could be done as early as one year, but he did not say that the lens was removed as early as one year. He had seen Col. Smith remove them as early as they came, and he had seen them as young as three or four years. He makes a small incision in the cornea with the Graeffe knife, not quite as small as he could make with the keratome. These lenses are all rudimentary. The rough sketches by which he illustrated his paper indicated that they are of full size, but they are exceedingly small, not much more than a small calcified membrane, and they do not require a very large dissection, and the forceps are forced down into the eye, and the lens is grasped and pulled out. He simply ties them up with a figure-of-8 bandage, one turn for each eye, and the child is carried off to be taken care of by the parents. In regard to the naphtholin tests spoken of by Dr. Gradle, it is well known that naphtholin will produce cataract in the adult human as well as in animals, similar to the cataract produced in hookworm anemia, of a milky character somewhat like those that form in rabbits as described by Dr. Gradle.

WESLEY HAMILTON PECK, Secretary.

KANKAKEE COUNTY

A regular meeting of the Kankakee County Medical Society was held at the Eastern Illinois Hospital, Thursday evening, June 12, 1913, a goodly number being present. The cordial reception tendered by Superintendent Wilgus and the hospital staff, soon made the society feel "much at home."

After a short business session and the adoption of resolutions regarding the death of our former secretary, Dr. Henry W. Kern, and the adoption of very suitable resolutions pertaining to the State Board of Health, Dr. Lewis Wine Bremerman of Chicago was introduced, and gave a pleasing and profitable lecture on "Genito-Urinary Diseases and Its Surgery," illustrated by the stereopticon. After which the society was tendered refreshments, music and dancing by the graduating class of nurses of the hospital. All in all the meeting was very successful and places our society under obligations to the state hospital and its corps of physicians and nurses.

C. F. SMITH, Secretary.

MADISON COUNTY

The Madison County Medical Society held its regular monthly meeting on June 6, at Beverly Farm in Godfrey, the home of Dr. W. H. C. Smith. The meeting at Beverly Farm is an annual feature. The society holds one meeting a year for the purpose of inspecting the private institution which is conducted there by Dr. Smith.

The meeting was one of the best attended meetings held in a long time, there being about forty doctors present. Of this number about twenty were members of the Madison County Medical Society, twelve from the Jersey County Society, several members of the Macoupin and Green County societies, and there were also three doctors present from St. Louis.

A feature of the meeting was the annual address by the president, Dr. Mather Pfeifferberger, Alton. The annual address is one of the duties of the president's office, and in connection with that, after he has taken up the duties of his office in January he must visit every city, town, hamlet and cross roads in the county that boasts two or more doctors, and talk to them in the interest of the society. It is while making these trips he generally finds some subject that will be of interest to all the members. Dr. Pfeifferberger spoke on "The Business Side of the Profession."

The entire time of the meeting was taken up with the reading of the address and the discussion of it, and was enjoyed by all. In fact the address was so well received by the society that a unanimous vote was taken to have the address printed in the ILLINOIS MEDICAL JOURNAL.

Dr. E. W. Fiegenbaum, Edwardsville, secretary of the society, was highly complimented on the June issue of the *Madison County Doctor* and was ordered to have 1,000 extra copies printed for distribution. This makes a total of 1,300 extra copies that have been printed. Of the first run of 500 copies only a few are left.

A vote of thanks was extended by the society to Dr. and Mrs. Smith for their hospitality and entertainment of the afternoon, wishing them continued success at the Beverly Farm.

The next meeting of the society will be held on July 3, on the steamer *Alton*. The members taking the trip will go to Alton and board the steamer there.

E. W. FIEGENBAUM, Secretary.

THE BUSINESS SIDE OF THE PROFESSION

MATHER PFEIFFERBERGER, M.D.

ALTON, ILL.

President's annual address to the Madison County Medical Society, June 6, 1913:

It has been the custom for the president of this society to make his annual address on a medical or surgical topic. Your chief officer is going to digress slightly from this custom and try to present a few points for discussion, which are of the utmost importance not only in a profession but in any business, trade or other branch of human endeavor.

Oliver Wendell Holmes is credited with the saying that a successful doctor is a man who should know something about everything and everything about something, the something of course meaning his profession. A doctor may know a great deal about his profession and not succeed for the reason that he lacks knowledge of the most important thing to make his life a success, viz., the business side of his work. Sometime since there appeared in one of the current magazines an

article on "The Physician and His Compensation in the United States," showing that the average annual income of the doctor in this country is \$650, and we hardly question the conclusion of the article when we look around us and see some of the business methods that are used, or rather not used. The doctor, as a rule, graduating from his preparatory school, does not avail himself of a business course in any of his preparation, enters a medical school and after graduating starts to compete for a living in the business world with men who are thoroughly equipped, not in his profession but in his clientele, the result being an annual loss of money which, if he was properly prepared, he might save, to spend on better preparation for his own work. With the advance in prices in these modern times, we as doctors, must pay more attention to the business side of our profession. The doctor of old studied in the office of his preceptor, took one or two courses or lectures, bought his stock of drugs, a small library, horse and buggy, and made calls for \$2 per visit and \$1 per mile, delivered an obstetric case for \$15 to \$25, gave a prescription and office call at \$1 per call. The doctor of to-day spends four years in medical college, studies electricity to handle an x-ray and coils, chemistry to administer the modern serum tests, etc.; must own a small-sized library of 100 volumes or more; must learn to report his unusual and interesting cases to his fellow practitioners who report their's to him; must learn sanitation to educate his community to prevent disease so he will not have so much to do; must become a public speaker, etc., and collect \$2 a visit, \$1 per mile extra, \$15 to \$25 for an obstetrical case, \$1 for an office call and prescription. Further, he must maintain several telephones, an automobile and take five or six journals to do his work. Why do these conditions exist? Just because we doctors are not business men.

The author believes that we as doctors should stand together closer in our business dealings. Every other branch in our country has a so-called gentleman's agreement in business matters. Not standing together is going to give us conditions such as exist in England. It should be every doctor's aim to give his patient the best service possible, should charge his patient a just charge according to his walk in life, and should use every means possible to collect that charge. It is bad business to ever cut or reduce a bill after it is presented. Cutting or shaving a bill makes the patient question your honesty, you lose his respect and he goes elsewhere.

It is a good business policy to render bills monthly and urge payment. It is just as necessary for a doctor to establish his credit as it is for an individual, company or corporation. He can only establish this credit by collecting what is due him from others and paying others what is due them. We are not speaking here of our unfortunate and misfortunate patients who cannot pay, but people who can and will not.

A man who does not pay his bills when he can afford to is worse than the commonest thief, the thief takes a chance on being caught but the man who does not pay his bills does not. The thief if caught is prosecuted; why not prosecute the man who does not pay his bills? People who have the means and have been given value received ought to be made to pay and if doctors were better business men we would sue and make them pay as is done in other walks in life.

We have considered somewhat the patient's side of the case; let us now take up the doctor's side and we will find a greater amount of fault right in our own ranks. A doctor should establish his day of work like any other one who works, from 8 a. m. to 8 p. m., or any hours he may decide on and charge more for work before and after the established hour. Since starting in practice it has been my own custom to charge more for a night call, when I had to get out of bed and dress. The members of this society saw fit to request of its members not to do contract work. A year ago I was asked to sign two different contracts of insurance companies, the rate being \$5 less on all cases than our fee bill. It meant a loss of \$300 or \$400 per year and I refused to sign them.

The cut-price doctor, the dividing-fee doctor and the percentage doctor is the worst evil to the business of the profession. The cut-price doctor will live to see the time when his prices are cut by another of his kind and finally he has to cut so much he has cut himself out of a practice.

The splitting-fee doctor keeps leading himself into deeper water all the time; he looks for a man who will give him the greatest divy and the bigger the divy the less the patient gets for his money. The man who expects the split, gradually gets into the habit of urging operations and consultations when not necessary in order to split the fee. The fee-splitters have been justly called the crooks of the profession. The percentage doctor is pretty near as bad as the fee-splitting doctor, only he does not work on a large scale. I am speaking of the man who gets percentage on the goods he prescribes sold by drug houses. There is a concern in a suburb of Chicago, I am informed, that pays members of our profession \$20 to \$30 a month, based on the amount of drugs prescribed by them and made by this drug concern. To increase the sales a new prescription is given at each call and fifty to sixty times the amount needed is ordered. A doctor who cuts prices, splits fees and works the percentage game cannot give his best for a reduced price; he loses interest in his profession. The result is that the patient that goes to the cheap doctor is running the same risk as the man who patronizes the cheap lodging house; he is likely to come away with more than he took with him. There is nothing so infectious as an infectious doctor, hence we see that the cut-price doctor steals from himself and his fellows.

Another evil we have allowed to creep in is the price-quoting evil; people go to the doctor, get a price for a piece of work, go to another doctor, tell him that doctor so and so does the same work for so much and he reduces accordingly. The best method is not to quote, but to tell them you will do what is necessary to be done and charge them accordingly.

Gentleman, these evils are among us and we will have to eradicate them in some way; we will have to adopt some means of getting after the members of the profession who are doing these questionable things. If it is error through ignorance of business methods let us start a campaign of enlightenment; if it is a wilful act of wrong on a doctor's part let us investigate it and deal with him as he should be dealt with. Let us also try and keep ourselves informed on business methods, adopt the good ones, and get more of the necessary legal tender that we justly earn and raise our standard as a profession and keep on raising it.

RANDOLPH COUNTY

The Randolph County Medical Society met in Sparta, at the Country Club, June 12, 1913, Dr. H. L. Gault, president, in the chair. The following members were present: Drs. Gault, Anderson, J. W. & W. F. Weir, James, LeSaulnier, L. J. & J. W. Smith, Lyon and Yandell. The following physicians were also present: Drs. T. W. Bailey, Hillel, Underberg, St. Louis; H. A. Cables and Arbuckle, East St. Louis; Horine, Brighton. Minutes of last meeting were read and approved. Financial report read by secretary-treasurer, Anderson, was accepted.

Dr. Harley Yandell, Chester, presented application for membership, and on being reported favorably by board of censors, was made a member.

Officers for ensuing year were elected as follows: W. A. James, Chester, president; J. W. Weir, Sparta, vice-president, and L. J. Smith, Percy, secretary-treasurer. Board of censors named by the president were: Dinges, L. W. Smith and Gault.

A delicious basket dinner was served in the club house by the wives of local and out-of-town physicians. After dinner the following program was profitably rendered:

Dr. H. A. Cables, East St. Louis, "The Value of Blood-Pressure in Interpreting Some Clinical Manifestations." Discussed by Drs. Lyon, James and Bailey.

Dr. H. L. Gault, Sparta, "Report of Case of Idiopathic Phlebitis." Discussed by Drs. Cables, Lyon, LeSaulnier and Gault.

Dr. Hillel Unterberg, St. Louis, Mo., "Common Disorders of the Nervous System." Discussed by Drs. Lyon and Yandell.

Dr. W. F. Weir, Sparta, "Hexamethamine."

Dr. L. J. Smith, Percy, "Report of Case of Erysipelas During Pregnancy."

Dr. H. C. Adderly, Chester, "Report of Case of Gonorrheal Ophthalmia." (Absent but reported by Dr. Yandell.)

This was the second quarterly meeting and should have been held in April at Red Bud. Because of this the next meeting will be July 24, again at County Club, Sparta, and each member must bring his wife, or other member of his family, and a well filled basket.

LOUIS J. SMITH, Secretary.

WINNEBAGO COUNTY

The Winnebago County Medical Society met at Nelson Hotel, Rockford, June 10, 1913, Dr. Emil Lofgren in the chair.

The program for the evening was, "Acute Enteritis in Infants."

Dr. Lee Scott, Rockford, read a thorough paper on the "Etiology, Pathology, Symptoms and Treatment of the Disease." Dr. H. F. Moore, Rockford, read a paper on the "Treatment of Acute Enteritis in Adults." General discussion followed.

The society voted to recommend to the mayor of Rockford the name of Dr. Daniel Lichty as one of the three members of the tuberculosis sanitarium committee, to be appointed by His Honor.

Adjourned.

C. M. RANSEEN, Secretary.

WOODFORD COUNTY

Woodford County Medical Society met in annual session at the Court House, Eureka, May 6, 1913. Meeting called to order by President C. B. Higby. Members present were: Drs. C. F. Banta, F. E. Briggs, N. B. Crawford, W. C. Cotton, James Tweddale, J. F. Page, J. I. Knoblauch, C. B. Higby, F. W. Nickel, W. S. Morrison, H. A. Millard, H. G. Eichhorn.

Minutes of previous meetings read and approved. Secretary-treasurer report read and approved. The board of censors reporting favorably on the applications of Drs. R. M. Houek and F. B. Ireland for membership, they were duly elected.

The following officers were elected for the ensuing year: president, F. E. Briggs; vice-president, W. S. Morrison; secretary-treasurer, H. A. Millard; delegate to state society for 1914 and 1915, H. A. Millard; alternate delegate to state society for 1914 and 1915, C. F. Banta; censor for three years, J. I. Knoblauch; censor for two years, C. F. Banta. Present board censors, J. F. Page, C. F. Banta, J. I. Knoblauch. Adjourned for luncheon.

Called to order at 1 o'clock. The following papers were read: "Report of a Case," F. E. Briggs; "Autogenous Vaccines," W. C. Cotton; "Instructions to Patients," W. S. Morrison. All of the talks were able and were thoroughly and enthusiastically discussed, all present participating.

This was one of the best and most enthusiastic meetings that we have ever held, more than half of the doctors of the county being present.

Adjourned. H. A. MILLARD, Secretary.

Woodford Medical Society met in special session at the Court House, Eureka, Tuesday, March 4. Meeting called to order by President C. B. Higby. Those responding to roll call were: C. F. Banta, N. B. Crawford, J. F. Page, E. R. McBroom, J. I. Knoblauch, H. A. Millard, C. B. Higby. Four new members were elected, namely, Dr. L. E. Bratt, Dr. F. W. Nickel, Dr. W. C. Cotton, Dr. E. J. Carroll.

Correspondence regarding the establishment of a medical school by the state university was read. The society voted unanimously in favor of such school and instructed the secretary to write to our state senator and representatives urging them to support such a bill.

Adjourned. H. A. MILLARD, Secretary.

News Notes

—This place has changed hands. If you like this JOURNAL, tell your friends: if you don't like it, kick to us.

—A tuberculosis sanatorium for La Salle County is to be erected on the county farm at a cost of \$2,400.

—Remember our advertisers. They pay the freight or postage on THE JOURNAL, and make the printers smile.

—THE JOURNAL has made arrangements for a full report of the proceedings of the meeting of the neurologists in Chicago, June 23-25.

—The new St. Joseph's Hospital, Aurora, was dedicated with impressive ceremonies, May 25. Bishop Muldoon of Rockford made the dedicatory address.

—Dr. J. Z. Bergeron and Dr. Joseph C. Beck have resigned from the Faculty and Head of the Department of Eye, Nose and Throat of the Loyola University.

—If this JOURNAL does not reach you early in July it is due to delay in receiving the minutes of the annual meeting and the extra time required to "reset" type to conform to the new style.

—A fund of \$100,000 is to be secured for the erection of a building at Rockford College in commemoration of Clara Barton, and for the endowment of a scholarship of biology and bacteriology in that institution.

—In consequence of an extensive fire which has destroyed manuscript, plates and other property, the Council of the Manila Medical Society announces that the publication of the "Bulletin of the Manila Medical Society" is suspended indefinitely.

—Dr. Frank B. Fastbend of Chicago, who was accused by the parents of Alfred Radke of poisoning the child when treating him for a sudden illness, was exonerated by coroner's physician, Joseph Springer, who, after investigation, decided that the child died from scarlet fever.

—At a conference of the Chicago Health Department and representatives of charity institutions, June 5, plans for summer relief work were formulated. These plans include the continuation of the work of last year, free medical attention, free ice to the poor and the welfare of children.

—On Monday, June 16, Dr. Charles S. Minor of Asheville, N. C., delivered a most instructive address on "My Experience with Tuberculin Treatment" to the Study Circle of the Chicago Tuberculosis Institute at a luncheon at the City Club. Sixty physicians and nurses attended the luncheon.

—Dr. W. A. Crooks, the superintendent of the Watertown State Hospital, is asking for an appropriation of \$165,000, of which \$75,000 is for a dormitory for female patients, \$25,000 for a building for male patients suffering from tuberculosis and \$22,000 for the purchase of eighty additional acres of land.

—The Chicago Health Department advocated typhoid vaccinations to prevent acquiring the disease during vacations spent where the water-supply might be infected. Dr. Young offered

free vaccination to the first 1,000 applicants at the Iroquois Hospital. June 26, the first day, forty-one persons were vaccinated, and appointments were made by many others.

—The following appointments are announced on the attending staff of Cook County Hospital: department of contagious diseases, Drs. Archibald L. Hoyne, William L. Baum, George H. Weaver, Edward K. Armstrong and Anson M. Cameron; department of children's diseases, Dr. Grace L. Meigs; department of pediatrics, Drs. J. H. Hess, C. G. Grulee and Joseph Brennemann.

—Rush Medical College, which has for a number of years strongly recommended a fifth clinical year as intern in a hospital, or its equivalent, has made this compulsory for the class entering in 1914. This fifth year is to be spent either in graduate work in one of the departments of the college or as an intern in an approved hospital under the constant supervision of the college faculty.

—At the annual meeting of the Rush Medical College Alumni Association held June 11, the following officers were elected: president, Dr. Arthur M. Corwin; vice-presidents, Drs. Joseph Z. Bergeron, John J. Stoll and Libni B. Hayman; necrologist, Dr. John Ritter; secretary, Dr. Charles A. Parker; treasurer, Dr. Morris L. Fishbein; chairman of editorial board, Dr. B. McPherson Linnell; chairman of fellowship committee, Dr. George H. Weaver.

—On June 6, a smoker and entertainment was given to the alumni and faculty of the College of Physicians and Surgeons by the Alumni Association. Addresses were made by President James of the University of Illinois and W. L. Abbott, president of the board of trustees. Dr. Edward E. Heintz, retiring president of the association, made a plea for financial support for the college, stating that "no medical school whose only support consists of fees paid by students can be maintained with modern students."

—The State Charities Commission in its third annual report, recommends state inspection and supervision of hospitals and sanatoriums of every character which receive sick persons for treatment, and urges the public to take a sympathetic and humane interest in the state charitable institutions and in all questions relating to them. The commission also voices its opposition to the system of fining, as practiced throughout Illinois. It believes it to be wrong to fine the head of a family for misdemeanor and take from him that which should go to his family for their support. Fines so levied should be collected and paid over to the family for its support, and while the

offender is held a prisoner, he should be compelled to work and his earnings should be delivered to his family.

—A recent ruling of the United State Public Health Service has been made demanding that all interstate carriers supply certified water and ice to be used in public drinking-fountains, tanks, etc. Under this ruling the various ice and water companies are compelled to obtain certification of their ice and water to be used on steamboats and trains. Accordingly a commission, to be known as the Chicago Ice Commission, has been formed, composed of Drs. Ludwig Hektoen, director of the Memorial Institute for Infectious Diseases, Edwin O. Jordan, professor of bacteriology, University of Chicago, and Prof. John H. Long, professor of physiologic chemistry, Northwestern University, which will undertake the examination of ice, its source, transportation, delivery, etc., and certify the results when found satisfactory.

—Officers of the Chicago Medical Society have submitted to the president the names of physicians indorsed for appointment to the International Congress of Medicine, which will be held in London this summer. On the list are William L. Baum of Chicago, now in London; Dr. John B. Murphy, who also is in London, where he has gone to be made a fellow of the Royal College of Surgeons; Dr. M. L. Harris, Dr. E. A. Halstead, Dr. Frank G. Billings, Dr. Arthur R. Edwards and Dr. Charles H. Kahlke, all of Chicago; Dr. William F. Grinstead, Cairo; Dr. J. L. Wiggins, East St. Louis; Dr. Albert L. Britton, Athens; Dr. John E. Allaben, Rockford; Dr. R. W. McInnes, Belvidere, and Dr. George M. Kreider, Springfield. No salary is paid by the federal government to the delegates, who are required to pay all of their expenses out of their own funds.

Personals

Dr. William Hecker, Watseka, is returning from Europe.

Dr. and Mrs. E. E. Gilder, Peoria, have returned from abroad.

Dr. and Mrs. E. K. Loekwood, Virden, have returned from Europe.

Dr. Morris L. Loevenson has returned to Chicago after three years abroad.

Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, has resigned.

The office and residence of Dr. John W. Botkin, Virden, was burned to the ground, May 12.

Dr. Isaac Freemmel has been appointed assistant superintendent at the Elgin State Hospital.

Dr. John D. McGregor, Chicago, city physician, was the guest of honor at a banquet March 22.

Dr. Thomas O. Felts, Bloomington, has been adjudged insane and committed to the Peoria State Hospital.

Dr. William M. Freeman, Crystal Lake, was operated on for appendicitis in St. Joseph's Hospital, Elgin, June 2.

Dr. Samuel M. Green, Dixon, charged with being responsible for the death of a Milledgeville girl, has been acquitted.

Dr. Frank S. Johnson has been elected president and Dr. S. C. Stanton secretary of the Physicians' Club of Chicago.

Dr. J. A. Spiegel, an intern at the German Hospital, was severely injured May 31, while attempting to board a street car.

Dr. E. L. Mitchell has been elected vice-president and Dr. Ralph Graham, secretary of the Monmouth Hospital Association.

Dr. and Mrs. Thomas J. O'Malley, Dr. and Mrs. A. E. Lundgren and Dr. and Mrs. George de Tarnowsky have sailed for Europe.

Dr. A. T. Paulson was elected chief medical examiner of the Independent Order of Svithiod at the meeting of the Grand Lodge, May 30.

Dr. G. W. Fockler, Delavan, entertained a number of his brother practitioners at a dinner, May 11, in honor of his fiftieth birthday anniversary.

Dr. Julius Grinker has been appointed a member of the attending staff of Cook County Hospital in the department of nervous and mental diseases.

Dr. S. M. Green, Dixon, charged with having caused the death of May Coleman, Milledgeville, by an alleged criminal operation, was found not guilty, May 11.

Dr. R. S. Gazelle, formerly a practicing physician at Armingtton, has been appointed first lieutenant in the Medical Corps of the Egyptian Army and is stationed at Port Bruce, Sudan.

Dr. Elizabeth B. Ball, Quincy, secretary of the Adams County Medical Society, sailed for Europe, May 31. Dr. D. G. Stine, Quincy, will act as secretary during her absence.

In the case of Drs. C. F. Brian, Belmont, and R. L. Moter, Browns, defendants in a suit for alleged malpractice, the jury promptly brought in a verdict exonerating the defendants.

Dr. Robert B. Preble, who was attacked with appendicitis while en route to Washington, May 5, was operated on in George Washington University Hospital the next day and returned to Chicago, May 11.

Drs. Isaac A. Abt, Ernest Lackner and Julius H. Hess have been appointed attending medical staff of the Sarah Morris Hospital for Children, and Drs. Mark Jampolis, Albert H. Beifeld and Jesse R. Gerstley, associate medical staff.

Dr. George W. Michell has purchased 100 acres of land at Prospect Heights, Peoria, from Dr. George A. Zeller, as a site for the new building of the Peoria Sanitarium. The new institution is to cost \$50,000 and will be arranged on the cottage system.

In the case of Dr. R. M. Curtis, Marengo, against McHenry County, in which a sum in excess of \$5,000 was claimed on account of service during a small-pox epidemic, the jury found in favor of the plaintiff, awarding him \$1,500 for his services.

Dr. John A. Hornsby, formerly superintendent of Michael Reese Hospital, has been appointed county hospital efficiency expert and will advise with the county board and county architect in matters concerning the plans for the new Cook County Hospital and other hospitals to be erected by the county.

Dr. John R. McDill, Milwaukee, who has been for several years in the Philippine Islands, has been appointed associate professor of surgery (tropical diseases) in Rush Medical College and will give a short course next winter. It is possible that this is the first step toward the establishment of a department for the study and teaching of tropical diseases in Chicago.

A number of colleagues of Dr. E. Fletcher Ingals gave a testimonial banquet April 28 in his honor and in appreciation of his forty-two years of service in the medical profession. Dr. Frank Billings presided. Addresses were made by Prof. J. G. Coulter for the University of Chicago; Hon. Frederick A. Smith for the board of trustees of the university; by Dr. E. L. Shurly, Detroit, for laryngology; by Dr. Norman Bridge, Los Angeles, for the faculty, and by Dr. Otto T. Freer, for the department of laryngology. Dr. John M. Dodson presented a loving-cup to Dr. Ingals and in his response, the guest of honor gave a historical sketch of the evolution of Rush Medical College.

Public Health

A PLEA FOR YOUR BABY'S LIFE

—Between now and the onset of the real hot weather in July hundreds of Chicago babies will be deprived of their natural food—mother's milk—and scores of these half-mothered babies are

sure to pass into the "great beyond" as a result thereof.

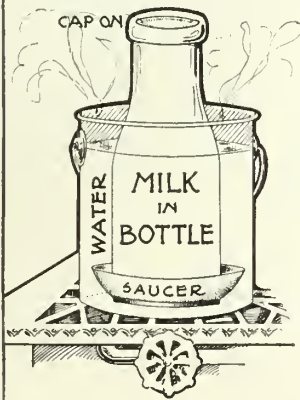
In the great majority of cases this act on the part of the mother is wholly unnecessary; it is prompted chiefly by purely selfish motives, little or no thought being given to the babies' future well-being.

To the nursing mothers of Chicago who may be contemplating weaning the baby from its natural food before the onset of hot weather we say *don't do it*, excepting on the urgent advice of a good doctor.

mil, whereas the chances and likelihood of serious contamination of cow's milk are manifold and extremely difficult to prevent. By far the greatest number of baby deaths in the summer months are due to feeding infants contaminated milk.

Cow-milk feeding is more troublesome because in the first place the process of adapting the milk of a cow to a baby's digestive apparatus requires a lot of careful study and experimentation, and in the second place because it implies constant painstaking labor during the entire period of infant feeding, or about one year.

MAKE BABY'S MILK SAFE PASTEURIZE IT AT HOME THIS KILLS DISEASE-PRODUCING GERMS in MILK



Directions for Pasteurizing

Use a pail a little shorter than the milk bottle. Place saucer in bottom of pail and stand the bottle of milk on this saucer. Leave cap on bottle.

Pour hot water into pail until water level is about four inches below top of bottle.

Place on stove and bring water to boiling point.

When water begins to boil immediately remove bottle of milk from pail.

Cool the milk in bottle as rapidly as you can and place it in ice-box as soon as possible.

MILK MUST BE KEPT COLD & TIGHTLY COVERED IN CLEAN BOTTLES TO PREVENT DEVELOPMENT of GERMS IN IT.

Chicago Department of Health, Educational Poster No. 55

Designed by, Dr. C. St. Clair Drake

To your baby it means much. The chances for a mother-fed baby surviving the summer are sixty times better than for the bottle-fed baby. Surely you are not willing to take such desperate chances.

A cow-fed baby has a pretty hard row to hoe, as also has the mother of a cow-fed baby. It is much safer to the child and much less troublesome to the mother to feed a baby as Nature intended it should be fed than to try and adapt the food of some other animal to its needs. Mother feeding is safer because the chances for contamination of mother's milk are practically

In view of these facts we believe that you will agree with us that no sane, humane mother will deprive her baby of its natural food unless absolutely compelled to do so by stress of circumstances.

There are, of course, instances where mother feeding is inadvisable or impossible. The family doctor, however, is the only person competent to arrive at such conclusions and until he does so the mother should continue feeding attempts—the advice of grandma or nurse to the contrary, notwithstanding.

God help the cow-fed, half-mothered baby.—*Bulletin*, Chicago Department of Health.

—The Chicago Tuberculosis Institute issued its third *Bulletin*, June 1, 1913, giving the history of the two-years campaign of its committee on factories, and detailing the experience of seven Chicago firms having a large number of employees engaged in mercantile, railroad, factory and other lines of work such as the telephone and electric business. The plan of the Institute was given in an article by Dr. Sachs in *THE JOURNAL*, February, 1913, page 146. The statements made by the physicians employed by the large firms as to the number of employees examined, the number found tubercular or affected by other diseases, many of them contagious or infectious, and the means detailed for restoring them to health by sanitarium and other treatment, benefit societies and other details, indicate that the danger of infection has been very greatly reduced, and the working conditions much improved.

—The tuberculosis fakers are surely playing in hard luck. The June *JOURNAL* was barely in the hands of the readers when the long-looked-for report of the Public Health Service on the Duket cure was given out by Secretary McAdoo of the U. S. Treasury Department. Based as it was on the investigation of Dr. J. O. Cobb of the Marine Hospital, there was nothing to do but predict that the cure "will be a flat failure." The much heralded investigation thus becomes a boomerang that strikes the outfit close to its vitals. Now comes the test of the sincerity, good intentions and "philanthropic purpose" of the Duket backers to "do the public good." Now is the time for them to unload or receive merited contempt due an effort to put over a rank fraud. Just here and now comes the crucial test.

Things have been happening also to the Friedmann outfit. The following from the *Bulletin* of the New York City Health Department of May 31 shows why Friedmann soon after shook the dust of that city from his brogans and "beat it" back to good old Germany. They do say he took a roll of \$40,000 with him:

OFFICIAL SUPERVISION OF IMMUNIZATION WITH LIVING BACTERIA

When the exploitation of the so-called Friedmann cure for tuberculosis in this country was imminent in the early part of this year, the Board of Health of this city became convinced, after due investigation of the story and claims and promises of the discoverer, that, while the presumption and the existing evidence were largely against the fulfillment of the claims which were so freely made for it, it was still not wise or practicable, in view of the widespread hope of benefit which had been aroused among the victims of this disease.

to interfere at the moment with the use of the remedy, provided no evidence was to be adduced of the harmfulness of the living cultures which it was proposed to administer.

Such evidence was not at the time at hand, and, while the testimony as to the efficiency of the remedy from German observers was not at all encouraging, it was felt that a fair scientific test might wisely be given to the method. Under these conditions, although the Board of Health felt that it would not be wise or practicable for it to assume the supervision of such a series of tests, it welcomed the assumption of this task by the federal authorities who had placed the matter in the hands of accomplished and experienced medical officials.

The unusual publicity which has accompanied the introduction of this particular remedy and the large number of patients who applied for treatment threatened to bring about a general pilgrimage of sufferers from tuberculosis to New York City, and thus presented a new and acute problem to the Board of Health which already had grave doubts whether the department charged with the protection of public health should permit the general use of treatments by new and untried vaccines until evidence of their entire harmlessness had been produced. The progress of the study of this remedy by the government physicians was followed with interest, and the Board of Health finally drafted a general regulation providing for official supervision of such methods of treatment in the future. The entire subject was then presented to the Medical Advisory Board of the Department of Health at a meeting held Wednesday, May 28, 1913, at which the following members were present:

Dr. Joseph D. Bryant, chairman; Dr. T. Mitchell Prudden, secretary; Dr. Abraham Jacobi, Dr. Simon Flexner, Dr. A. Alexander Smith, Dr. John Winters Brannan, Dr. L. Emmett Holt, Dr. Walter B. James. The following officials of the Department of Health were also present: Ernest J. Lederle, Ph.D., commissioner; Dr. Joseph J. O'Connell, health officer of the port; Dr. Hermann M. Biggs, general medical officer; Dr. William H. Park, director of laboratories; Dr. Charles B. Slade and Dr. Luther B. MacKenzie. Other physicians present by special invitation were: Dr. James Alexander Miller of Bellevue Hospital, Dr. Maurice Fischberg of the Montefiore Home, Dr. Alfred Meyer of Mt. Sinai Hospital, Dr. Alfred G. Gerster of Mt. Sinai Hospital, Dr. N. E. Brill of Mt. Sinai Hospital, and Dr. Livingston Farrand, executive secretary, National Association for the Study and Prevention of Tuberculosis.

On May 29, 1913, the Board of Health adopted the following resolution in the form approved by the Medical Advisory Board:

WHEREAS, In the judgment of the Board of Health, the use of living cultures of bacteria in the inoculation of human beings, for the prevention or the treatment of disease, may be fraught with serious danger to the individuals and to the public health, and

WHEREAS, The necessity and the harmlessness of such a procedure can be safely determined only by carefully planned and controlled and unbiased scientific measures and observations, and

WHEREAS, Certain tests of the efficiency and safety of an alleged cure for tuberculosis now being made in this city are being rendered unsatisfactory, unscientific and practically futile through the insistence of the

originator of the alleged remedy, on conditions which involve inadequate observation, inaccurate methods of administration and the insistence on secrecy regarding the substance employed in some phases of the treatment, and

WHEREAS, Evidence is already at hand to show that the so-called remedy not only does not fulfill the promises of efficiency and safety under which its use was at first permitted in this city, on the contrary, during its administration many patients have suffered serious and unduly rapid progress of their diseases; therefore, be it

Resolved, That the use of living bacterial organisms in the inoculation of human beings for the prevention or treatment of disease shall be and is hereby prohibited in New York City, until after full and complete data regarding the method of use, including a specimen of the culture and other agents employed therewith, and a full account of the details of preparation, dosage and administration shall have been submitted to the Board of Health, and until permission shall have been granted in writing by the board for the use of the same.

This resolution was embodied in the Sanitary Code as Section 148a, the exact reading of which is as follows:

Section 148a. The use of living bacterial organisms in the inoculation of human beings for the prevention or treatment of disease is hereby prohibited until after full and complete data regarding the method of use, including a specimen of the culture and other agents employed therewith, and a full account of the details of preparation, dosage and administration shall have been submitted to the Board of Health of the city of New York, and until permission shall have been granted in writing by the said board for the use of the same.

Marriages

FRANK AMBROSE LAGORIO, M.D., to Miss Ella A. Triner, both of Chicago, May 20.

T. ARTHUR JOHNSON, M.D., to Miss Ruth Winnifred Swanson, both of DeKalb, Ill., May 28.

NELSON HORATIO LOWRY, JR., M.D., to Miss Amalie C. Pippereit, both of Chicago, May 17.

LOUIS J. LINDER, M.D., East St. Louis, Ill., to Miss Helen L. Bott of Brighton, Ill., at Alton, Ill., June 4.

Deaths

JAMES M. GRIMES, M.D., Missouri Medical College, St. Louis, 1857; a member of the Illinois State Medical Society; died at his home in Camp Point, May 21, aged 77.

GEORGE GORDON WILCOX, M.D., Rush Medical College, 1882; a member of the American Medical Association; local surgeon at Seneca, Ill., for the Rock Island system; died about May 11, aged 63.

HARRY JAMES RELIHAN, M.D., Northwestern University Medical School, Chicago, 1909; formerly of Sanborn, Iowa; died at his home in Chicago, May 31, from the effects of an overdose of morphin, aged 31.

BENNETT P. WINDSOR, M.D., John A. Creighton Medical College, Omaha, 1896; mayor of Mount Auburn, Ill.; was shot in a political feud, May 16, and died in St. John's Hospital, Springfield, May 17, from the effects of his wound, aged 38.

HERBERT EDWARD BALMAIN DICKSON, M.D., L.R.C.P., Ireland, 1886; L.R.C.S., Edinburgh, 1889; formerly a member of the staff of the Royal Ophthalmic Hospital, London; a specialist on diseases of the eye with office in Chicago; died at his home in Hinsdale, Ill., May 15, aged 49.

FRANKLIN BENJAMIN GOTTSCHALK, M.D., Northwestern University Medical School, 1894; a member of the Illinois State Medical Society; formerly professor of electro-therapeutics in Jenner Medical College; died at his home in Chicago, May 22, from septicemia, following a wound of the foot, aged 45.

MICHAEL EDWARD MCGANN, M.D., College of Physicians and Surgeons, Chicago, 1903; a member of the Illinois State Medical Society and a veteran of the Spanish-American War; a member of the executive board of St. Joseph's Hospital, Joliet, for the past five years; died at his home, May 7, from disease of the intestine, aged 38.

ALBERT G. PICKETT, M.D., Medical College of Ohio, Cincinnati, 1847; Illinois Army Board, 1862; assistant surgeon of the Fiftieth Illinois Volunteer Infantry during the Civil War; thereafter a practitioner of Mattoon, Ill., until 1898, when he moved to Chicago; died at the home of his daughter in Urbana, Ill., May 5, from myocarditis, aged 86.

WILLIAM RUSH PATTON, M.D., Rush Medical College, 1862; commissioned surgeon of volunteers during the Civil War, but relieved from active field service by the War Department on account of a family left dependent on him by the death of his father and brother; for seven terms mayor of Charleston, Ill.; died at his home, May 12, from cardiac embolism, aged 76.

GUSTAVUS PHILEMON HEAD, M.D., Rush Medical College, 1884; a member of the American Medical Association; professor of otology, laryngology and rhinology in the Chicago Post-Graduate Medical School; well known as a specialist and publisher, for several years, of the "Practical Medicine Series of Year Book"; died at his home in Anstin, Chicago, June 11, from pneumonia, aged 51.

EDWARD EVERETT HYDE, M.D., assistant to the Editor of *The Journal of the American Medical Association*, died in the Presbyterian Hospital, Chicago, July 4, after a short illness, from acute myelogenous leukemia; aged 38.

He was born in Galesburg, Ill., Jan. 19, 1875, the son of the Rev. Azariah and Maria L. Everett Hyde; received his academic degree from Knox College, Galesburg in 1896, and then entered the College of Physicians and Surgeons, Chicago, from which he graduated in 1900. During his college course he was editor in chief of the Knox Student. On June 15, 1900, Dr. Hyde was ordained to the Christian ministry, and in November, 1900, sailed from San Francisco for the Caroline Islands as a medical missionary, under the auspices of the American Board of Commissioners of Foreign Missions, arriving at Ruk, his post of duty, in February, 1901. On account of the ill health of Mrs. Hyde he returned from the Caroline Islands early in 1902, and coming to Chicago in February of that year, he became a member of the staff of *The Journal* and continued in this capacity until his death, for several years past having been assistant to the Editor of *The Journal*.

His society membership included the American Medical Association, Illinois State Medical Society and Chicago Medical Society.

For several alternate years he had attended the meetings of the Association as editor of the *Daily Bulletin*, and this work he did most acceptably at the Minneapolis meeting. On his return from Minneapolis he was not in good condition, but remained at work for a few days, and then was obliged to remain at home and finally was taken to the Presbyterian Hospital, where, in spite of all that medical skill and care could do, he died Friday, July 4, at 9:45 p. m. His funeral was held at his home in Wilmette, July 7, and his remains were cremated at Graceland the same day.

New and Nonofficial Remedies

Since publication of *New and Nonofficial Remedies*, 1913, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Cholera Agglutinating Serum.—The dried blood-serum of horses which has been injected with killed cultures of the cholera vibrio. It is

intended for the diagnosis of cholera by the agglutination of suspected cholera vibrios. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Diphtheria Bacterin.—This is a *Bacillus Diphtheriae* Vaccine claimed to be useful for the treatment of diphtheria carriers and for immunization against diphtheria. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Coli Vaccine (Polyvalent).—For description of *Bacillus Coli* Vaccine see N. N. R., 1913, p. 221. Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Gonococcus Vaccine (Polyvalent).—For description of *Gonococcus* Vaccine see N. N. R., 1913, p. 223. Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Pneumococcus Vaccine (Polyvalent).—For description of *Pneumococcus* Vaccine see N. N. R., 1913, p. 224. Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Staphylococcus Vaccine (Polyvalent).—Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Staphylococcus Albus Vaccine (Polyvalent).—Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Staphylococcus Aureus Vaccine (Polyvalent).—For description of *Staphylococcus* Vaccine see N. N. R., 1913, p. 225. Schieffelin & Co., New York (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Staphylococcic Cultures.—These cultures consist of colonies of active living *staphylococcus aureus*. They are intended for the elimination of diphtheria bacilli from the throats of diphtheria carriers. H. K. Mulford Co., Philadelphia (*Jour. A. M. A.*, May 10, 1913, p. 1461).

Luminal.—Luminal is phenyl-ethyl-barbituric acid. It is closely related to veronal, which is diethylbarbituric acid. It is a white, slightly bitter powder, almost insoluble in cold water. It is claimed to be a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system. Merck & Co., New York (*Jour. A. M. A.*, May 17, 1913, p. 1541).

Luminal-Sodium.—Luminal-sodium is the sodium salt of luminal. It is hygroscopic and readily soluble in water. It is used for hypodermic injection in 20 per cent. solutions. Merck & Co., New York (*Jour. A. M. A.*, May 17, 1913, p. 1541).

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Original Articles

MILK-SUPPLY OF SMALLER CITIES AND TOWNS *

W. W. GREAVES, M.D.
LA SALLE, ILL.

The milk-supply of the larger cities has been greatly improved since it became the subject for thorough investigation. Its source being controlled by the city ordinances and medical milk commissions, the people are now able to receive milk which meets the approval of the milk commissions of the medical society.

The milk-supply of many of our smaller cities and towns is practically the same as it was twenty-five years ago. The cow-stables are in the same old barns, the barns have the same old surroundings, and the milk has the same old smell. It is handled by unsanitary employees and delivered to the consumer without any pretention to exclude dirt, air or germs. The temperature is that of the atmosphere, no attempt being made to cool it, unless it is absolutely necessary, in order to deliver milk which is not wholly sour to the consumer. In the investigation of many dairies, I noticed that they had marshy or wet ground in the rear of the barns where the pigs and cattle ran together; also that the wells were in close proximity to the barns.

It is a peculiar fact that although many articles appear regularly in journals, daily papers and magazines regarding the cleanliness of milk and the dangers of impure milk, the truth does not seem to come home to the people in the smaller cities and towns. They read about the babies in larger cities dying from impure milk and of the epidemics produced by infectious milk and really pity the city people who must use such milk. They do not seem to be able to

realize that their local dealer probably buys his milk from the same farmer.

It was to gain more information as to the actual condition of the milk and its source in the smaller cities and towns that I addressed letters of inquiry to twenty-five of my medical friends in various counties throughout the state of Illinois. I selected cities with as near a population of 10,000 as practicable, though the range ran from 6,000 to 15,000 people. I asked the following questions:

1. Where does your milk-supply come from?
2. Can certified milk be bought in your town?
3. Can pasteurized milk, from a reliable station, with an up-to-date outfit, be purchased in your town?
4. Does your health officer inspect the source of your milk-supply, as barns, etc.?
5. Does your health officer examine the milk at all (a) For per cent. cream? (b) Bacteria? (c) Adulteration?
6. Does your town have any ordinance regarding the milk-supply?

Of the twenty-five towns from which replies to these inquiries were received, the negligence of the health officials and medical men in regard to the milk-supply is noticeable. Probably the most apparent was that many cities have an ordinance regarding the sale of milk, but no attention whatever is paid to it. In other cases, reports of adulteration have been made and arrests followed, but for lack of prosecution the cases have been postponed indefinitely. Of the twenty-five, two have certified milk for sale. One is Urbana, whose supply is derived from the University of Illinois dairy farm, and the other is in the northern part of the state. In the second town, it is a peculiar fact that although certified milk can be purchased the health officer does not examine the milk at all, nor is there any ordinance regarding milk. Evidently the milk is largely for shipping trade.

Five of the twenty-five cities have well established pasteurized milk stations and several

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 20, 1913, Section on Public Health and Hygiene.

others were being established, which would suggest that the future supply of many smaller cities will be mainly milk of this variety. In the majority of the cities the health officer did not examine the source of the milk-supply, there being only one exception. This responsibility was left entirely to the bi-annual visit of the state inspector.

I wish to call your attention to the fact that out of the twenty-five cities there were only four which examined the milk at all, these four examining only for per cent. of cream and adulteration. About one-half, twelve, have ordinances regarding the milk-supply, but the majority of physicians to whom I addressed my inquiries replied that they were never enforced, or, as one physician stated, "never to the knowledge of the oldest inhabitant had it been enforced." I do not wish to bore you with figures and statistics, but from these few replies to my inquiries we were able to draw the following conclusions:

1. That in the larger cities the medical societies and health officials have taken care of their milk-supply.

2. That in cities of 5,000 to 15,000 the milk question is neglected.

3. That many of the smaller cities have ordinances regarding the sale of milk, but the same are never enforced.

4. That many cities examine the milk for per cent. of cream and adulteration. This is misleading to the people, as the reports of examination are published in many of the local papers and the readers believe that the milk is satisfactory, as it bears the endorsement of the health officer; whereas we all know that the milk may stand the cream and adulteration test and still be filthy and disease-laden.

Permit me to use my home town, La Salle, Ill., as an illustration of how milk conditions can be improved. Eighteen months ago all milk delivered came either from an undesirable or unknown source. Today I believe we have as well regulated a milk-supply as any city of its size in the state. The change has been accomplished without any aid from the city itself. In July, 1911, an endowment of \$200 a month was placed in the hands of a committee from the La Salle-Peru Medical Society to establish a modified milk station for babies. One of the requirements of the gift was that the milk should be purchased from clean, healthy, tuberculin-tested cows housed in a sanitary stable, and that the milk should have a bacterial count of not over 10,000 to a c.c. The committee in charge investigated many reputed sanitary dairies, but

were obliged to report to Mr. Matthiessen, the donor, that a stable and milk of that nature was not available.

The milk station now known as the Emma Matthiessen Chancellor Memorial Modified Milk Station would have been unable to operate but for the kindness of the donor who furnishes milk from his private dairy.

This was the first move toward improvement. The medical society, assisted by a few interested people and school men, began to talk sanitary milk until the people at large finally became educated to the following facts:

1. That it was not necessary for milk to smell of cow to be real milk.

2. That milk which would never sour was preserved.

3. That a certain percentage of the healthy-looking cows were tubercular.

4. That milk must be cooled immediately after milking and kept cool.

5. That milk could not be successfully delivered in open wagons in ordinary cans.

6. That the good old family cow might be diseased and, if not milked under sanitary conditions, the milk could be as infectious as any dealer's supply.

7. That milk carried contagious diseases.

Inside of a year a first-class sanitary dairy was established selling milk at 10 cents a quart. A great demand having been created, a large patronage was secured even at the increased price, as the ordinary milk sells for 7 cents a quart.

At nearly the same time a modern pasteurized milk station was established, which also does an excellent business at 8 cents a quart. To be sure, a large number of citizens still take milk that is produced and delivered under unsanitary conditions, but lectures are being held under the auspices of the health committees of the Commercial Club and Women's Bureau to instruct the people on the dangers of impure milk. Also, at the local 5 and 10-cent picture shows, instructive lantern slides have been displayed with the advertising matter, showing conditions in which unclean milk is produced. It is a strange circumstance that although many of the local milkmen have been approached and urged to establish modern dairies, they have merely scoffed at the idea and sat idly by while their business has diminished accordingly.

At the present time La Salle's health officer examines milk for percentage of cream and formaldehyde, but arrangements are being made for a health officer whose salary will be suf-

ficient for him to devote his entire time to the duties of that office. With his aid and the passing of an ordinance regarding the supply of milk by the City Council, I firmly believe that the city of La Salle will have the best milk of any city of its size in the state.

Although I have related our experience in securing good milk, I do not think it practicable for the ordinary city or town. I believe the solution of the problem lies with the medical societies of the various counties or with the medical societies of the towns themselves, if they are well organized. Medical milk commissions must be organized and, through their efforts, ordinances must be passed to thoroughly regulate the milk-supply and the issuing of permits to dealers whose milk, cows and stables come up to the requirements of the milk commissions. In order to do this in a small city the ordinance must give the milk commission, or health department, police powers with the authority to act, or it will soon discover that influence will be brought to bear on them, through business relations, to overlook violations of the law.

It is with difficulty that medical men in the smaller towns and cities can be induced to take active part on the milk question. They fear their business is liable to suffer by an active conflict such as they will surely find where they once commence to enforce the ordinance. Nevertheless, the way is clear and medical men of the smaller towns and cities sooner or later must take the question up the same as has been done in Chicago and other large cities. In some states medical milk commission laws have been passed by the legislatures, as in New Jersey, where a very good law was passed in 1909. Section 1 of this act reads: "Any five or more physicians, duly authorized to practice medicine under the laws of the state, who desire to associate themselves together for the purpose of supervising the production of milk intended for sick-room purposes, infant feeding and for use in hospitals, may make, record and file a certificate in writing," etc. By the act any five reputable physicians may start a movement for certified milk in their locality.

I believe the ideal method to control the supply has been adopted by Chicago's ordinance, which is also applicable to smaller cities and towns. By their method the milk is divided into inspected and pasteurized milk. In this way all producers whose milk cannot come up to the required specifications of "inspected" milk must

be pasteurized. Every dealer must get a "permit" to sell milk which must reach the requirements called for on the government score card. Milk that contains over 1,000,000 bacteria cannot be sold in Chicago.

I wish to call attention here, as every investigator in the city control of milk soon finds out, to a very objectionable law framed by Edward Shurtleff of Marengo, Ill., and passed by the Illinois legislature. This bill prohibits a city from enforcing tuberculin testing of cows. Such a law, which virtually makes it lawful for the producer to force tuberculin milk down the throats of the consumer, should certainly be repealed.

Many towns do not have better milk because no action has been taken by the medical profession. The laity are not expected to take the initiative steps toward health. If the doctors will start the movement in their respective cities or towns, it will be only a short time before the citizens become interested, and when once a demand for pure milk is created, pure milk will be obtained.

DISCUSSION

Henry B. Hemenway, Evanston: *Mr. Chairman:* I wish first to compliment the author on the excellence of his paper, and on the results which he has achieved. There are certain advantages, and certain disadvantages, in the control of the milk-supply of a small city or village. The area from which the milk comes is not large, so that knowledge of conditions is not difficult. There is, however, a local prejudice which interferes with efficient control, if the control is to be left to local officers. For example: A widow, living in the outskirts of one of our smaller towns, kept cows and supplied the villagers with milk. Her son came home sick with typhoid fever. She cared for him and continued to sell milk. The local board of health was composed of three physicians, one of whom was the family physician. He did not want to stop her business, and the other members of the board did not feel that they could afford to interfere, for fear that it would be said that they acted from jealousy or prejudice. It would be better in such cases if the regulations and enforcement were under the authority of the state, rather than local officers.

The milk-supply of our larger cities is derived from a large area. It is a practical impossibility for the city authorities to keep satisfactory supervision over the entire area of production. Besides this, different cities have different methods and rules. There is a conflict as to requirements. For these reasons it seems important that the supervision of milk production and delivery should be by the state, rather than by local officers. Regulations should be uniform as far as possible, and inspection should be most complete. Even with this state supervision there is still a place for certified milk, but certified milk does not settle the problem for the people generally, for the reason that it is too expensive.

The problem is largely one of education. People need to be educated as to the necessity for pure milk, and as to the dangers which they are meeting. The needed raise in price for careful production is more than offset by decrease in sickness. The additional cost is a very cheap and profitable investment as insurance against sickness.

Dealers and farmers need education. They are, as a rule, well intentioned. Many of them spend large sums of money in safety appliances, and then neutralize it all through ignorance. It takes brains to run the machine. No amount of investment will insure good milk unless the operators know the principles of sanitary production and delivery. On the other hand, with knowledge comes the possibility of conducting a sanitary business on moderate capital. To insist on this knowledge from farmers and dealers is a proper function of the state.

As illustrating how ignorance neutralizes expenditure for high-priced machinery, permit me to mention one place. The proprietor has installed expensive machinery in a well-constructed building. Physicians have recommended his milk as practically certified. Everything about the place looks clean. To the trained observer, however, there are everywhere indications of danger. A portion of his supply is shipped in unsealed cans. I am told by the expressmen that it is a common practice when such milk is in transit for persons to open a can and dip out a cupful to drink. I have seen the empty cans sitting at the railroad platform covered with flies in the summer time. In the bottling plant there are other similar indications of lack of knowledge.

Dr. A. Gehrmann, Chicago: As regards its milk-supply, the small community is in a position of advantage in some respects and at a disadvantage in others. The greatest advantage is that the supply is near. It is usually from the edge of town and is delivered the same morning that it is obtained from the cow. Another advantage is that the consumer does or may know precisely from what dairy or even what cow his supply comes. The disadvantage is that this milk production is a back yard proposition, a sort of pocket money service and not definite business. As far as quality is concerned, I am sure this can be guaranteed by taking samples and making tests at irregular intervals. The dairyman should be in constant fear that a test is going to be made and the names of below grade samples should be made public. The sanitary problems of these small town supplies are almost impossible to control on account of the back yard conditions. I have been inclined to consider, even in the face of a possible damage to private interests, a solution of the problem in the form of a milk franchise. This would put the production on a business basis, it would be a control supply. It could be supervised and if the term is long enough, it would permit of sufficiently high grade methods to meet modern ideas in milk production. At any rate, a central supply would be a great advantage from the standpoint of sanitation.

The introduction of license and permit are of first importance in getting control of the situation in any community, but it is not necessary that the fee be large. It is the fact of registration that makes the milkman begin to see his duty.

Dr. Sandor Horwitz, Peoria, Ill.: We in Peoria have succeeded in placing before the public a milk ordinance which has been carefully and studiously prepared by a local milk committee of the Child's Welfare League and backed by the local medical society. The final passage of this ordinance is the result of a campaign of education carried on for some time by the Child's Welfare League, the local papers and the medical society. The ordinance went into effect on the 18th of this month. In this ordinance we have adopted the government score card, with very little variation. We have provided for a thorough dairy inspection anywhere in this state. In this ordinance the city council has granted the Child's Welfare League all they asked for excepting bottled milk. In lieu thereof we have provided for a tightly fitting covered receptacle to be used when milk is sold in bulk, at the preference of the consumer. I am satisfied that this ordinance will be enforced so far as it is within the power of the local board of health.

Dr. H. J. Gahagan, Elgin: I was very much interested in Dr. Greaves' paper, owing to some experience as City Physician of Elgin during 1911, in handling a typhoid epidemic. There were seventy-eight cases reported to the department, 25 per cent. of which were traced to having used milk from a dealer who was a victim of the disease.

With the health officer I made a canvass of the milk depots of the city to find out how the milk was handled, and in many instances found methods unsatisfactory. Each dealer's comprehension of cleanliness was based on his own conception.

I pointed out the necessity of having a "clean" man to handle the bottles in the filling operation, and to prevent the exposure of the stoppers to flies, which gather in large numbers attracted by the paraffin. It is the minor details in the operations of bottling and earing for milk which are liable to be neglected, and milk thus becomes contaminated, not because of neglect or unwillingness on the part of the dealer to comply, but because he has not been properly instructed.

Every community should have a milk ordinance, properly enforced, but my idea of handling milk is through a central depot as suggested by Dr. Gehrmann.

Dr. J. W. VanDerslice, Oak Park: If it were possible to have a good certified milk sold in all the smaller cities the educational value would be of immense value from many points of view. In most of the larger towns there would be developed a demand for certified milk if a county medical society milk commission were established.

At the start it would be almost impossible to have a farm equipped to supply milk of this grade, as the market would be so limited that a profitable production of certified milk would be impossible, but it would be possible for the county society milk commission to certify to one of the farms already certified by the Chicago Medical Society Milk Commission, and in this way a high grade certified milk could be distributed in any city in the state and the milk need not be twenty-four hours old when received by the consumer. The demonstration of a clean raw pure milk on the market in all the live towns of Illinois would be a step far in advance of any state in the Union.

RURAL WATER-SUPPLIES *

EDWARD BARTOW, PH.D.

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The Census Bureau,¹ for the purpose of discussion, has defined urban population as that residing in cities and other incorporated places of 2,500 or more, and rural population as that residing outside of such incorporated places. The urban territory of the state of Illinois in 1910 contained 3,476,929 inhabitants, or 61 per cent. of the total population, while 2,161,662, or 38.3 per cent., lived in rural territory. Only six cities containing more than 2,500 inhabitants having a combined population of 20,000, are not supplied by general water-supplies. Of the cities containing less than 2,500 inhabitants, eighty-five have no general water-supplies, and hence must rely on wells or cisterns for their drinking waters. Many people in cities having general water-supplies, either from necessity or preference, use shallow well water for drinking purposes. Oftentimes the city mains are not extended to new sections. Oftentimes in old sections the houses are not connected with the mains, making the use of a shallow well necessary. Oftentimes the city water furnished has unpleasant physical characteristics, like taste, color or turbidity, causing people to prefer the clear shallow well water. We estimate that the number of people in cities using well water would be approximately the same as the number of people in the rural territory who are supplied by general supplies. It would be reasonable, therefore, to estimate that a population equivalent to the rural population, or that 40 per cent. of the population of the state of Illinois, obtain their drinking water from wells.

In a great measure the relative use of shallow wells in different sections of the state is dependent on the source and character of the municipal water-supplies. In the northern part of the state of Illinois the majority of the city water-supplies are obtained from deep rock wells. In the east central portion of the state the water-supplies are obtained from deep drift wells. In these sections it is a comparatively easy matter to obtain a satisfactory general water-supply, and therefore the number of shallow wells are reduced to a minimum. In the west central and southern parts of the state the general water-supplies are obtained from streams. This method of obtain-

ing a water-supply is more expensive than the deep well method, since it requires the building of a dam and an impounding reservoir and in most cases the construction of a filter plant. For this reason 32 per cent. of the cities of more than 1,000 inhabitants in the southern part of the state have no general water-supply. It is possible to have deep rock wells in the northern part of the state because the St. Peter and Potsdam sandstones, which outcrop in the central and northern part of Wisconsin, dip to the southward, so that they are from a few hundred to two thousand feet below the surface in the northern third of Illinois, or rather north of a line drawn from Quincy to Chicago. Because the height above sea level in Illinois is less than in Wisconsin, wells which enter these two strata are free-flowing or can be easily pumped. Such wells furnish an ideal water for a municipal water-supply, and in many cases when the expense is not prohibitive, are used as a source of supply for the individual farms. As the water lies in the water-bearing stratum it is absolutely free from contamination. It is only necessary to take proper measures to prevent contamination during delivery to the consumer. Such contamination may occur from defective casing, contaminated reservoir or from faulty connections with impure river supplies.

In the rock wells along or south of a line drawn from Quincy to Chicago there is a strong probability that the water will be very highly mineralized. It is, therefore, necessary in the central and southern parts of the state to obtain water-supplies from sources other than deep wells in rock. In the eastern part of the central area the glacial drift is deep enough and contains gravel coarse enough to furnish a satisfactory water-bearing stratum. We, therefore, find many of the cities in this area obtaining their water-supplies from wells from 100 to 200 feet in depth. These waters are also perfectly free from contamination in the water-bearing strata, and if properly cared for furnish a perfectly hygienic supply. Many farms in this area obtain at a comparatively small expense their water-supplies from the deep drift wells. Since this drift extends over most of the northern section of the state, it furnishes a satisfactory source of supply for the rural districts where the municipalities use the deeper well waters. Only 10 per cent. of the cities of 1,000 inhabitants or more in the northern part of the state are without municipal water supplies.

In the western half of the central part of the state and in that part of the state south of a line

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 22, 1913, Section on Public Health and Hygiene.

1. Thirteenth Census of the United States, 1910.

drawn from St. Louis to Danville the drift is not deep enough to furnish sufficient reservoir capacity, and it is necessary to rely on surface waters for municipal supplies, and the shallow-dug wells for the rural supplies. Very few of the surface water-supplies in this section of the state have been filtered. The unfiltered water-supplies are not only unattractive for drinking, but they may be contaminated or may even be infected. With unattractive municipal supplies a large majority of the citizens in the southern section use water from shallow wells. Under such conditions we expect a higher typhoid fever death-rate in the southern part of the state than in the east-central and northern parts.

A study of the statistics collected by the State Board of Health from 1904-1911² shows this to be the case. Dividing the state into two parts, fifty-one counties to the north and the same

TABLE 1.—PURITY OF WELL WATERS. SHOWING PER CENT. OF WELL WATERS CONDEMNED ANNUALLY BY THE WATER SURVEY. ARRANGED ACCORDING TO DEPTH OF WELL

	1907	1908	1909	1910	1911	1912	Total
Less than Twenty-Five Feet							
No. examined ...	284	254	242	148	113	168	1,209
No. condemned ...	240	192	183	118	74	113	920
% condemned ..	85	75	75	79	65	67	76
Twenty-Five to Fifty Feet							
No. examined ...	224	395	354	201	196	353	1,723
No. condemned ...	173	250	226	137	122	185	1,093
% condemned ..	77	63	63	65	62	52	63
Fifty to One Hundred Feet							
No. examined ...	111	192	161	90	89	129	772
No. condemned ...	42	66	54	46	8	28	244
% condemned ..	37	34	53	51	9	22	32
Over One Hundred Feet							
No. examined ...	161	312	376	205	171	339	1,564
No. condemned ...	22	31	62	43	30	49	237
% condemned ..	13	9	16	20	17	14	15
Unknown							
No. examined ...	88	46	72	67	19	27	319
No. condemned ...	34	22	38	35	9	6	144
% condemned ..	38	47	52	52	47	22	45
Total							
No. examined ...	868	1,199	1,205	711	588	1,016	5,587
No. condemned ...	511	561	563	379	243	381	2,638
% condemned ..	60	46	47	53	41	38	47

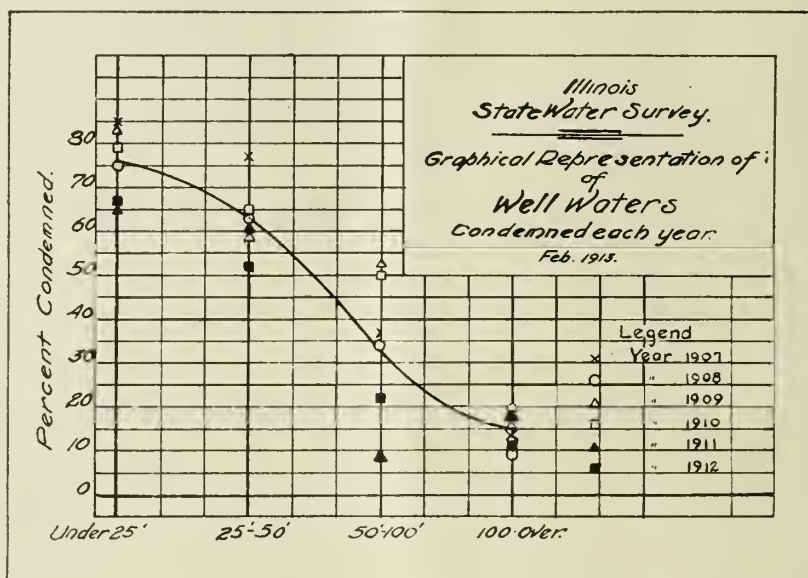


Diagram No. 1.

number to the south, we find in the northern part of the state but two counties with a typhoid fever death-rate exceeding 30 per 100,000, and not one county with a typhoid fever death-rate of 40 per 100,000. Sixteen of these northern counties had a rate below 10 per 100,000.

In the southern part of the state there were five counties with a typhoid fever rate of more than 40 per 100,000, and twelve more with a typhoid death-rate of more than 30, and but one with a rate below 10 per 100,000. It is gratifying to note that the average for the eight years, 1904-11, is better than the average for the five years, 1904-08.

We have carefully classified all well waters sent to the Survey for examination during the years 1907-12. (See Table 1.) The waters received have been classified according to depth as follows: Less than 25 feet, 25-50 feet, 50 to 100 feet, over 100 feet, and unknown. The variation in the quality of each class from year to year is but slight. (See Diagram 1.) The average number condemned decreases with the depth of the well. The wells are condemned from the analysis considered in conjunction with the source of the water and the surroundings of the well. The condemnation is not because of the known presence of disease germs, but because of the presence of filth and the possibility of infection. Of

². Proceedings Illinois Water Supply Association, ii, 151-164.

those wells less than 25 feet in depth, 76 per cent. were condemned; of those 25 to 50 feet, 63 per cent. were condemned; of those from 50 to 100 feet, 32 per cent. were condemned; of those over 100 feet in depth, only 15 per cent. were condemned; and many of the deepest were condemned because of the excess of the mineral content and not because of contamination. Of those of unknown origin, 45 per cent. were condemned. Of all the well waters received during the six years, 47 per cent. were condemned. We note an improvement in the character of the waters received for analysis and a decrease in typhoid fever during the latter part of the five-year period.

Without doubt the above does not give the true idea of the actual condition of the water obtained from all wells throughout the state. As a matter

none of those over 100 feet in depth, were condemned. Diagram 2 shows the contrast between the character of samples analyzed by request of citizens and of those analyzed on the initiative of the Water Survey. Those collected by the Survey are of better quality.

TABLE 2.—FARM WELLS*

	Less than 25 ft deep	25 ft. to 50 ft.	50 ft. to 100 ft.	More than 100 ft.	Total
No. examined	15	41	15	29	100
No. condemned	11	22	2	0	35
Per cent. condemned ...	73	54	13	0	35

* These samples collected by the Survey should represent average conditions.

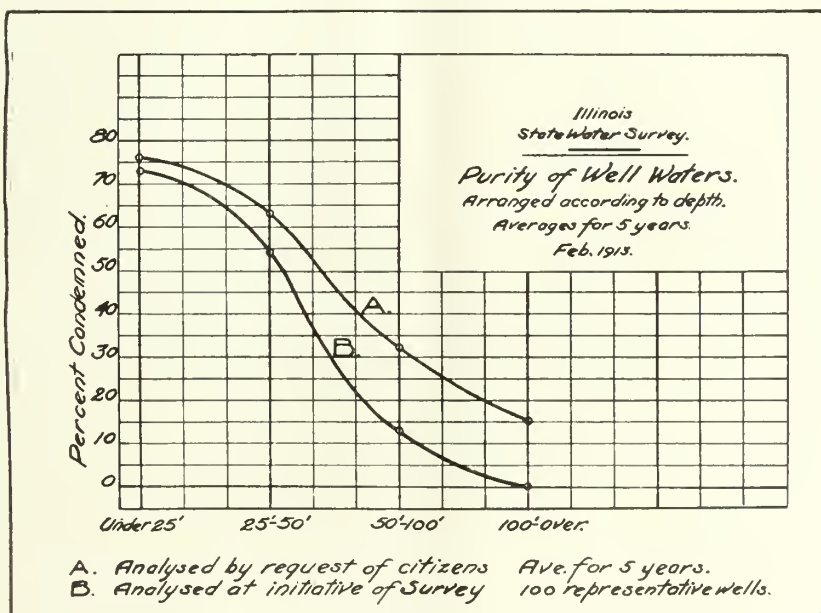


Diagram No. 2.

of fact, a majority of the samples sent to the Water Survey for examination are sent because of typhoid fever cases among those using the water. A truer estimate of the actual character of the well waters of the state can be obtained from a study of water collected by representatives of the survey from typical wells.³ A small number of samples collected by representatives of the Survey from farm wells in various parts of the state have been examined. While 73 per cent. of those less than 25 feet deep were condemned, only 54 per cent. of those from 25 to 50 feet, 13 per cent. of those from 50 to 100 feet, and

The results of the examination of the water from shallow wells showed three-fourths of them to be contaminated and possibly dangerous. An ideal remedy would be to abolish all shallow-dug wells, but the ideal cannot be attained in this as in many other matters. As indicated in the discussion of the sources of water-supplies in the state, it is impossible in some parts of the state to obtain a satisfactory water from deep wells so that the shallow well is a necessity.

Whenever the water-bearing stratum is porous enough to allow free flow, a driven or bored well less than 50 feet deep should furnish a satisfactory water. In many cases, however, the flow through the water-bearing stratum is so small

3. University of Illinois Bulletin, Water Survey Series, No. 7, 78-97.

that it is necessary to make a reservoir into which the water may slowly percolate and from which it can be drawn as needed. Hence the shallow-dug well is a necessity. Granting that it is a necessity, great care must be taken to protect the water. The character of the strata which it penetrates must be taken into consideration. Strata of sand may serve as a filter to purify the water. Strata of clay or other material through which water may flow in crevices or cracks may allow pollution to be carried considerable distances. Wells should be located on a higher level and at a distance from any cesspools, privies or barnyards. The immediate surroundings of the well must be carefully protected. Surface water should not be allowed to pass through the casing within at least 4 feet of the top. The cover should be tight so that water from the pump may not flow back into the well carrying with it any dirt and filth from the well cover.

If typhoid fever does break out, we wish to emphasize the fact that about the last thing to do is to send water for examination. Typhoid fever infection has taken place from ten days to two weeks before the symptoms are recognized. There are other means of spreading typhoid fever, and even if the water were the means, during the time between infection and the outbreak of the disease the water in the well may have lost its infection. Rather should the patient be so cared for that he may not again infect the well or infect others by contact. The water may be analyzed, but it will require from one week to ten days to obtain the results of an analysis, and in the meantime infection may have spread through other means. It is the wisest course to protect all wells so that infection cannot enter, making the water safe at all times.

DISCUSSION

Dr. A. Gehrmann, Chicago: I should like to ask Professor Bartow to state if there was any record made of the covering of the wells in relation to depth and reasons of condemnation. There is in the shallow well almost of necessity a bad condition in that not alone the people but also farm animals walk on the top of the well and contaminate it directly through a loose cover. If we could keep these feet off the top of the drinking well, contamination would be much less. The pump should be to one side and not directly over the well. The common way of arranging a well and walking all over the top is one of the worst violations of sanitary principles that we have.

VITAL STATISTICS AND WATER-SUPPLIES *

PAUL HANSEN

Engineer State Water Survey

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A striking fact is that in the absence of accurately kept vital statistics, the public, even the well-informed part of the public, has a very vague and inaccurate notion of the health conditions in a community. This fact is interestingly illustrated by Dr. W. S. Rankin, Secretary of the North Carolina State Board of Health. In a community of 20,000 he called by telephone five of the most representative and intelligent citizens and requested them to answer two questions without asking any explanations as to why the questions were put. The five men were, respectively, a college president, a public official, a practicing physician, a banker and a leading merchant. The first question was, "What is your opinion of the health of your city?" As if their patriotism had been called into serious question they all unhesitatingly answered "good." The second question was, "How many people would you say died in your city last year?" Since the first question had committed them to some pretence of knowledge it was necessary for them, after verbal sparing, to make a bluff at the answer. Three guessed 60 deaths, one guessed 100 and one 300. As a matter of fact, there were 508, an exceedingly large number for a community of this size and of course a very large percentage of the deaths were from preventable diseases. The combined guesses of the five persons was only 72 more than the actual number.

In the city to which Dr. Rankin referred, it was possible at least to get the total death-rate, but in most of the smaller cities of Illinois, it is not possible to do so without laborious searching in the county court house. So in the great majority of Illinois communities that have water-supplies it is impossible to demonstrate any relation between this utility and the healthfulness of the community. This status of affairs is particularly unfortunate in those communities having water-supplies which are known from ocular and analytical evidence to be contaminated. Due to some peculiar psychologic condition there are only two things which have weight in convincing the public that a water-supply is bad, namely, strong proof that the water is killing people, or the presence of some harmless mud—the latter

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 20, 1913, Section of Public Health and Hygiene.

is likely to have the greater weight. Fortunately for the advance of sanitation the presence of mud is generally an indication of the presence of more serious contamination.

Water-borne diseases are so characteristically shown by accurately kept vital statistics that it is of great importance to water works men that such statistics be maintained and made readily accessible. They enable one, in the case of polluted water-supplies, to show at what expense measured in sickness and death, these supplies are being maintained, and if sickness and death is not sufficiently intelligible as a measure, then the expense can actually be reduced to dollars and cents by very interesting methods suggested by Whipple.¹

With complete and accurate vital statistics it would no doubt be feasible to establish a clearer relation between water-supplies and diseases other than typhoid. Such a relation was first enunciated by Mills² in our own country and Reinke³ in Germany. Later, in 1904, Hazen⁴ gave this relation a rough quantitative expression by stating that for every typhoid fever death two or three deaths were prevented from other causes. More recently Sedgwick⁵ and McNutt have, by more elaborate statistical studies, given us a better figure which is an even greater ratio than that expressed by Hazen, namely, five or six deaths to one from typhoid. Though their discussions are very suggestive, these investigators have not succeeded in demonstrating clearly what these other diseases are and to what extent they exist. Good vital statistics maintained throughout the country, after careful analysis, cannot fail to throw more light on this interesting phase of the relation of water-supplies to public health. Not only this, but it will shed a new light on many of the obscure diarrheal diseases, more particularly diarrheal diseases of children.

A most important part of the maintenance of vital statistics from the point of view of the water works man is the prompt registration of all cases of transmissible diseases as well as deaths, more particularly those which are water-borne. These should as soon as practicable be extended to include various bowel disturbances which are not considered fatal or which are not clearly defined as specific diseases. With these

diseases properly tabulated and otherwise arranged from day to day the health of a community may be kept under firm control and epidemics may be promptly halted. By the aid of these figures water-supplies may be subjected to the supreme test, namely, their relation to the health of a community. Analyses and inspections may do much, but after all the vital statistics of a community speak most eloquently for or against a water-supply and constitute the only conclusive measure of its quality.

Many striking facts may be deduced by skillful handling of vital statistics and a few of the most frequently used devices should interest members of the sanitary section of the Illinois State Medical Society.

The first is the "spot map," or map on which are recorded by means of colored dots or tacks the location of cases. These maps are most illuminating as a first step in ascertaining the origin of an epidemic. If uniformly distributed throughout a community they suggest a generally active cause, such as a public water-supply. If restricted to a certain section, milk or a polluted well may be suspected as the cause.

Diagrams showing the daily, weekly, monthly and yearly distribution of cases and deaths are instructive in throwing light on the time when infection was active and combined with the information given by the spot map may throw much light on the source of infection.

Where typhoid fever or other disease occurs for an extended period of time and its distribution is modified by a variety of causes, an elaborate chart may be made, such as that devised by Whipple to illustrate typhoid conditions in Cleveland. This shows in addition to the incidence of typhoid fever, the rainfall, flood conditions in the Cuyahoga River, wind direction and velocity and periods during which water was drawn from the old and the new water works intakes.

Some interesting diagrams were devised by Sedgwick and Winslow⁶ to show the relation of typhoid to temperature under varying conditions for a number of cities and countries. To get smooth and representative curves, they plotted the monthly averages of typhoid fever and temperature for a long series of years. To bring out the relation more strongly, the temperature curves were set forward two months, which allowed approximately for the average time which elapses between infection and death. These curves show in a most striking manner that when uninfluenced by a polluted water-supply the annual dis-

1. George C. Whipple, Consulting Sanitary Engineer, New York City, and Prof. of Sanitary Engineering at Harvard College.

2. Hiram Mills, Engineer, member Mass. State Board of Health.

3. Reinke, Director of Public Health, Hamburg, Germany.

4. Allen Hazen, Consulting Sanitary Engineer New York City.

5. Prof. Wm. T. Sedgwick, Mass. Institute of Technology.

6. Prof. C. E. A. Winslow, College of the City of New York.

tribution of typhoid has a strong tendency to follow the curve of temperature, and that a polluted public water-supply has a tendency to produce spring and winter peaks.

From the foregoing it is apparent that well recorded vital statistics constitute the means whereby the character of a water-supply may be and should be judged. It should, therefore, be the object of all persons interested in pure water, and hence all physicians, to favor legislation which will introduce a thorough system for the registration of vital statistics in Illinois.

A METHOD OF OBTAINING PROPER SCHOOL SANITATION *

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Of all classes of municipal buildings in the United States, none are in such an unsatisfactory sanitary condition as our public schools. The problems surrounding the case are so entirely different from those of the home or an office building, or even a theater. In the home or in an office building there is always a comparatively large space per capita, many chances for adventitious ventilation and the opportunity for freely moving about for the best light. In the theater the same people are not subjected to the same conditions every day.

Enter any of the older schoolbuildings of our cities late in the afternoon of a cold winter's day and you will be struck first by the close air of the room, and next by the tired listless appearance of some of the pupils and the nervous irritability of others. Poor lighting and poor ventilation have caused it. In most of the schoolhouses built fifteen or twenty years ago one or more definite and important rules of schoolroom sanitation are violated. The following rules printed as Miscellaneous Document No. 35, House of Representatives, Forty-Seventh Congress, may, with some modifications, be our guide to-day:

"In each classroom not less than 15 square feet of floor area shall be allotted to each pupil.

"In each classroom the window space should not be less than one-fourth of the floor space, and the distance of the desk most removed from the window should not be more than one and one-half times the height of the top of the window from the floor.

"The height of the classroom should never exceed 14 feet.

"The provisions for ventilation should be such as to provide for each person in the classroom not less than 30 cubic feet of fresh air per minute, which amount must be introduced and thoroughly distributed without creating unpleasant draughts or causing any two parts of the room to differ in temperature more than 2 degrees F. or the maximum temperature to exceed 70 degrees."

Not an elaborate set of rules surely, and yet as I have said they are violated in most of our schoolbuildings. There are simple and easily understood reasons for this. The ordinary method of building a school is for the school board to decide first on the necessary space wanted, and next on the amount they wish to spend. They usually have tentative plans. Their ideas are then submitted to a number of architects, together with the amount they wish to spend. Each architect knows that his plans are in competition with those of other men of his profession. It costs money to arrange each room in a schoolbuilding, so that the lighting shall be efficient; it costs even more to provide for suitable heating and ventilation. The average school board and the average school superintendent know so little of these things in a practical way that they are at the mercy of any architect, whose desire for money exceeds his honesty. The best method of arranging window space is not the most economical, and the children suffer because of the ignorance of the building committee and the unscrupulousness of the architect. The best methods of providing against fire are expensive and our children run unnecessary risks. Above all, the best methods of heating and ventilation are quite expensive, and the cuts in the plans in that direction may be numerous. The school board and the town like to see an ornamental building, and the architect realizing it is apt to put on the outside money which should first go toward proper sanitary condition.

Frequently the question arises of adding to an old building or changing a heating apparatus, and the matter is entirely in charge of excellent men who know practically nothing of the necessities of school sanitation. A number of years ago, while on the school board of my home town, I had to do with the building of a schoolbuilding. The school board in this case went into the sanitary features very fully, and especially into those of ventilating and heating. Careful anemometer tests under all conditions of weather showed that we got 1,500 cubic feet of fresh air for each pupil

* Read at the Sixty-Third Annual Meeting of the Illinois Medical Society at Peoria, May 20, 1913. Section on Public Health and Hygiene.

every hour as a minimum. This air was taken from outdoors, warmed and introduced into the rooms through openings 6 feet above the floor, with suitable exits at the floor line. The rooms were so arranged that they could be heated and lighted properly. We also while in the business changed the old schoolbuilding, built in 1875, so as to supply 1,200 cubic feet of fresh air each hour to each child of a room full. In time it became necessary to replace the heating system in the newer building, and the school board, composed of our best business men, knowing nothing of ventilating problems, replaced the indirect heating with *direct*; carefully removed the fresh-air room; bricked up the openings for transmitting the warmed air for the rooms, until now the only chance they have to get fresh air is to open the windows occasionally and freeze the pupils nearest the window, then shut them down and wait until the air becomes noticeably foul. Now our children are suffering because good-intentioned men did not understand and should not be expected to supervise sanitary problems.

At the same time the radiators in the warming flues in the old building began to leak and the janitor was told to shut them off. To prevent admitting cold air to the rooms he was obliged to close the ventilating windows, and now this building has no ventilation whatever. We certainly have no moral right to enforce compulsory school attendance on children during their most sensitive years in our town. A child has a right, above everything else, to have healthful surroundings. From an educational standpoint, it is certainly not good practice to give him instruction in hygiene in a classroom which violates important hygienic rules. The child who sees a proper regard paid for cleanliness in its best sense, for light, for pure air and water, in the school, will be apt to carry the lesson home. Proper instruction, together with proper example in our schools, has a tremendous effect on the homes from which scholars come. In no other one subject will its effects be as noticeable as in those of proper sanitation by example.

At one time I thought that the solution of these difficulties would be in having a physician on every school board. Such a condition, however, is difficult to bring to pass, and considering the ignorance of many physicians as regards the practical application of sanitary needs in the case of schoolhouses, I am sure it would not be a success. Some time ago I thought of making public suggestion that state authority should supervise the sanitary arrangement and safety appliances in all new buildings, and in all old

buildings undergoing changes. I supposed this idea was original, but there is nothing new under the sun. Two bills introduced in the state legislature are now being considered which purpose to solve the problem in this way: making the plans of schoolbuildings subject to approval of the state architect, the State Board of Health and the state fire marshal.

If my experience has proved anything at all, it is that no set of men in an ordinary town can be left with the problem of erecting a schoolbuilding that may safely be attended by your child and mine. Proper sanitation is and always will be the most important thing about a schoolbuilding.

Very fortunately, our one-room country schools can have suitable heating and lighting without much expense, and I have been astonished at the number of country schools around my home town which have complied with most of the ideals. Pure drinking water and suitable water-closets are much more difficult to obtain in these small schools.

CONCLUSION

I cannot conceive of any really serious objection to compelling the submission of all school plans, whether for new buildings or for changes in old buildings, and to a certain extent school equipment, to proper state officials, who by training have an adequate knowledge of school needs: and I would urge this body to take some action in the support of the measures now pending before our state legislature.

COUNTRY SCHOOL SANITATION *

FRANCIS G. BLAIR

Superintendent of Public Instruction
SPRINGFIELD, ILL.

Ladies and Gentlemen of the Illinois State Medical Society.—John G. Saxe tells us of six blind men of Hindoostan, who went forth to study an elephant, to discover what manner of beast he was. One of them fell against the broad sides of the elephant and declared that it was a stone wall. The second one catching hold of the leg declared that the elephant was most certainly like a great tree. The third one taking hold of the tail insisted that the others were wrong and that the elephant was just like a rope. Number four, however, by this time had gotten hold of

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913, Section on Public Health and Hygiene.

the wriggling trunk and was just as certain that the elephant was nothing other than a snake. Number five, grasping the tusk, declared the others were wrong and that the animal was very like a spear. Number six, catching hold of the waving ears, maintained stoutly that all the others were wrong and that the elephant was like a fan.

Of course, Mr. Saxe may not have intended to preach a sermon on social work or social workers. It is, however, very true that at times the doctor, the lawyer, the preacher, the schoolmaster, the statesman and the social worker often study the social elephant in very much the same way that these blind men made their investigation, each one directing his attention to that particular part of the huge problem which his special interests bring him in contact with. It is one of the most promising signs of the times that we are trying to get a more all-round view of the problem. This is being brought about by counseling together at various associations and meetings which serve as intellectual clearing houses where we meet and compare our different points of view, our objects, our plans and our methods of work. As Superintendent of Public Instruction, I count it a bit of good fortune that the Illinois State Medical Society has called in a schoolmaster to take part on the program which has for one of its central studies school sanitation. I am to speak to you on one special item of work which is now being done by the Department of Public Instruction for the improvement of sanitary conditions in the rural schools of Illinois. The plan is a very simple one and can be very briefly stated. The law makes the Superintendent of Public Instruction the supervisor of all the common and public schools of Illinois. It makes him the adviser of school officers. On this legal authority the Superintendent of Public Instruction has appointed two country school supervisors who have entered on a campaign to better the physical and instructional conditions of the one-room country schools. Two diplomas are prepared by the State Department, one for a standard one-room school and the other for a superior one-room school. The standard diploma is awarded to any school which meets a certain minimum requirement. This minimum standard requirement as it relates to the physical and sanitary conditions is as follows:

YARD AND OUTBUILDINGS

1. Ample play ground.
2. Good approaches to the house.
3. Two well-kept, widely-separated outhouses.
4. Convenient fuel houses.

THE SCHOOLHOUSE

1. House well built, in good repair and painted.
2. Good foundation.
3. Well lighted.
4. Attractive interior decorations.
5. Good blackboards, some suitable for small children.
6. Heated with jacketed stove in corner, or a room heater and ventilator in corner, or basement furnace which brings clean air in through the furnace and removes foul air from the room.
7. Floor and interior clean and tidy.
8. Desks suitable for children of all ages, properly placed.
9. Sanitary water-supply.

In order to secure the superior diploma the following additional requirements must be met:

GROUNDS

1. Play-grounds at least one-half acre and kept in good condition.
2. Some trees and shrubs.
3. Well or cistern and sanitary drinking appliances.

HOUSE

1. Separate cloak-rooms for boys and girls.
2. Lighted from one side or from one side and the rear.
3. Heated with basement or room furnace, which brings in pure and removes foul air.

The country school supervisors go into the counties on invitation of the county superintendent. They visit the schools and examine personally the physical equipment. Along with the diploma goes a label which is prepared by the Department of Public Instruction for the door of the schoolhouse. This label has printed in gold on a black background "*Standard School*" or "*Superior School*," in such type that it can be read at a distance of from two hundred to three hundred yards. This appeal to local pride has been far more successful than was anticipated when the plan was formulated. The supervisors have awarded diplomas to over 1,100 standard schools. Four diplomas have been awarded to superior schools. These diplomas are renewable for five years. Each year there must be an investigation to see whether the school has been kept up to the standard. If in any instance the pupils, teachers or directors grow indifferent and allow the equipment to deteriorate the diploma is withdrawn. It is believed that this plan not only improves the conditions in the schools which are able to meet the requirements and receive the diploma, but it goes farther and improves cer-

tain conditions in many schools which cannot meet all the requirements. There are hundreds of schools which cannot receive a diploma so long as the present building remains, which have from the suggestions offered improved some conditions, say the character of the water which the children drink, or it may be that they have been able to change the seats, or the heating plant, or to comply with one or two of the requirements set forth. This work, it will be seen, is entirely optional on the part of directors from the district and results from a desire on their part to follow the suggestions of those in whom they have confidence and to place their district on an equality with surrounding districts.

There is need, however, of some legal sanction for the building of better school buildings and the providing of more sanitary conditions for the children to live and work in. There is a bill before the present General Assembly which approaches the betterment of physical and sanitary conditions of the public schools in two ways. First, it provides that whenever complaint is made to the county superintendent that any school building in his county is insanitary and a menace to the health of the children he may call on the State Board of Health for an investigation. If the result of this investigation reveals an insanitary condition the county superintendent shall notify the directors of such examination and such findings and request them to remove these insanitary conditions. If the complaint is that the building is structurally unsafe the county superintendent may call on the state architect for an investigation. Or, if the complaint is that the building is unsafe from fire standpoint the county superintendent may call on the state fire marshall.

Second, the bill provides that hereafter it will be illegal for any board of directors or board of education to build or repair a school building without conforming to certain general provisions published by the Superintendent of Public Instruction, respecting lighting, heating, ventilating and seating.

DISCUSSION

OF MR. BLAIR'S AND DR. BECKER'S PAPERS

Dr. W. W. Greaves, La Salle: Mr. Blair and Dr. Becker have given us very instructive papers on a subject which is of importance to all. The great trouble with the most of us in regard to school sanitation is that our attention is not directed to the same, or when we are advised of conditions of schoolhouses our lack of interest has been apparent.

Schoolhouse sanitation is being urged and acted on by those interested just the same as pure milk and tuberculosis. In many localities there is a gen-

eral lack of interest displayed by the local health officer and physicians as to sanitation.

The medical profession should be the first to urge the improvement of the local and country schoolhouse. From Mr. Blair's interesting talk to-day I believe that every one of us has had the question of sanitation of country schoolhouses firmly impressed on our memories, and whenever we enter a country schoolhouse the facts which he has pictured in our minds will be readily remembered to advantage.

I believe that the diploma system is an excellent idea to encourage better schools, and I am sorry to see that the inspection has not reached La Salle County, which I understand is the second largest county in Illinois.

Dr. Becker's statement that all plans for new schoolhouses or those to be remodeled should be submitted to the state department for inspection in order that all rules of sanitation be complied with is an excellent idea.

THE ILLINOIS CITY TUBERCULOSIS ACT

THEODORE B. SACHS, M.D.

President Municipal Tuberculosis Sanitarium
CHICAGO

The first tuberculosis sanitarium act of the state of Illinois was introduced in our state legislature at its forty-fifth adjourned session, by Senator Edward J. Glackin of Chicago (Senate Bill No. 598). The act passed and became operative, with the approval of the Governor, July 1, 1908. Its full title read: "An Act to Enable Cities and Villages to Establish and Maintain Public Tuberculosis Sanitariums."

The main provisions of the act were as follows:

1. Cities and villages were enabled to establish and maintain tuberculosis sanitariums subject to adoption of the act by a majority referendum vote at a regular annual election.

2. The rate of taxation for the sanitarium was not to exceed four mills on the dollar annually on all taxable property of the city or village, the determination of the tax within these limits being left to the city councils of cities and boards of trustees of villages.

3. The tax was to be levied and collected in like manner with general taxes of the city or village, subject to same limitations.

4. Administrative direction of the sanitarium vested in a board of three directors, appointed for three-year terms, in cities by the mayor with the approval of the city council, and in villages by the president of the board of trustees, with the approval of the trustees.

5. Treatment in sanitarium free to all residents afflicted with tuberculosis.

March 12, 1909 (forty-sixth session of the legislature), the act was amended (Senate Bill No. 139, introduced by Senator Glackin) by inserting the clause that the "sanitarium tax shall be in addition to all other taxes which such city or village is now or hereafter may be authorized to levy," and limiting the tax to the maximum of one mill.

Since then, Chicago, Rock Island, Peoria, Rockford and Belleville adopted the act by large majorities in a referendum vote, and Chicago is completing at present a Municipal Tuberculosis Sanitarium, with an ultimate capacity of 850 beds; this is in addition to ten tuberculosis dispensaries with a force of thirty-five dispensary physicians and thirty-seven nurses, an important phase of the work permitted under the liberal interpretation of the original sanitarium law.

Meanwhile, the three years' experience gained in the operation of the law in Chicago and in its application to other cities of the state, as well as the experience of other cities and countries with the relative value of various methods of solution of the tuberculosis problem, has gradually convinced us that our city tuberculosis sanitarium act would be productive of more far reaching and permanent results if certain other important agencies besides sanitariums were included in its provisions, namely, that the act should specifically permit the establishment and operation of all tried agencies and methods tending to the diminution of tuberculosis morbidity, viz., dispensaries, preventoriums, open air schools, etc. It was also felt that the law should specifically permit the establishment of all the necessary arrangements for efficient home treatment of tuberculosis cases. Besides, the exigencies of the present situation in cities dictated that the tax collected for the establishment and maintenance of sanitariums and other auxiliary agencies should be a special tax, free from all limitations applied to general taxes.

Through the efforts of Senator Glackin the very important amendments to the sanitarium act introduced by him at the just closed session of the legislature (forty-eighth general assembly; Senate Bill No. 515) were incorporated into law and became effective with the approval of the Governor June 27, 1913.

As it reads at present, the Illinois City Tuberculosis Sanitarium Act is one of the most comprehensive sanitarium laws enacted by any state in the Union. The extended scope of its provisions, with the additional insurance of necessary

funds, is found in the following amendments just enacted:

Section 1. . . . "the city councils of cities and boards of trustees in villages of this state shall have the power . . . to establish and maintain a public sanitarium *and branches, dispensaries and other auxiliary institutions connected with same* . . . and shall have the power to levy a tax not to exceed one mill . . . said tax shall be in addition to all other taxes . . . and the county clerk . . . *shall not include the same in the limitation of three (3) per cent. of the assessed valuation.* . . ."

Sec. 7. "Said board . . . shall have the power to *extend the benefits and privileges of such institution . . . into the homes of persons afflicted with tuberculosis and to furnish nurses, instruction, medicines, attendance and all other aid necessary to effect a cure* . . . and to do all things in and about the treatment and cure of persons so afflicted which will have a tendency . . . *to stamp out tuberculosis in such city or village.*"

The act, with its amendments, puts the cities of Illinois in a position to comprehensively deal with their tuberculosis problems, thus considerably advancing our state in this important phase of communal work.

THE ILLINOIS LAW

With its lately enacted amendments the Illinois City Tuberculosis Sanitarium Act is as follows:

Section 1.—Be it enacted by the People of the State of Illinois represented in the General Assembly:

Article 1. That the city council of cities and boards of trustees in villages of this state shall have the power, in the manner hereinafter provided, to establish and maintain a public sanitarium and branches, dispensaries and other auxiliary institutions connected with same, within or without the limits of such cities and villages, for the use and benefit of the inhabitants of such city or village for the treatment and care of persons afflicted with tuberculosis, and shall have the power to levy a tax not to exceed one mill on the dollar annually on all taxable property of such city or village, such tax to be levied and collected in like manner with the general taxes of the said city or village and to be known as the "Tuberculosis Sanitarium Fund," which said tax shall be in addition to all other taxes which such city or village is now or hereafter may be authorized to levy on the aggregate valuation of all property within such city or village, and the county clerk, in reducing tax levies under the provisions of section two (2) of an Act entitled "An Act to amend section two (2) of an Act entitled 'An Act concerning the levy and extension of taxes.'" approved May 9, 1901, in force July 1, 1901, as amended by an Act approved March 29, 1905, in force July 1, 1905, approved June 14, 1909, in force July 1, 1909, shall not consider the tax for said "Tuberculosis Sanitarium Fund" authorized by this Act as a part of the general tax levy for city or village purposes, and shall not include the same in the limitation of three (3) per cent. of the assessed valuation on which taxes are required to be extended.

Article 2. When one hundred legal voters of any such city or village shall present a petition to the city council or board of trustees of such city or village, as the case may be, asking that an annual tax may be levied for the establishment and maintenance of a public tuberculosis sanitarium in such city or village, such city council or board of trustees, as the case may be, shall instruct the city or village clerk to, and the city or village clerk shall, in the next legal notice of the regular annual election in such city or village, give notice that every elector may vote "For the levy of a tax for a public tuberculosis sanitarium," or "Against the levy of a tax for a public tuberculosis sanitarium," and if the majority of all votes cast upon the proposition is that such city or village shall be "for the tax for a public tuberculosis sanitarium," the city council or board of trustees of such city or village shall thereafter annually levy a tax of not to exceed one mill on the dollar, which tax shall be collected in like manner with other general taxes in such city or village and shall be known as the "Tuberculosis Sanitarium Fund," and thereafter the city council or board of trustees, as the case may be, of such city or village shall include and appropriate from such fund in the annual appropriation bill such sum or sums of money as may be deemed necessary to defray all necessary expenses and liabilities of such tuberculosis sanitariums.

Article 3. When any such city council or board of trustees shall have decided to establish and maintain a public tuberculosis sanitarium under this Act, the mayor of such cities and the president of the board of trustees of such villages shall, with the approval of the city council or board of trustees, as the case may be, proceed to appoint a board of three directors, one of whom, in cities or villages having a board of health, shall be from such board of health, and the other two from the citizens at large and shall be chosen with reference to their special fitness for such office.

Article 4. Said directors shall hold office one-third for one year, one-third for two years and one-third for three years from the first of July following their appointment, and at their first regular meeting shall cast lots for the respective terms; and annually thereafter the mayor or president of the board of trustees, as the case may be, shall, before the first of July (of) each year, appoint as before one director to take the place of the retiring director, who shall hold office for three years and until his successor is appointed. The mayor or president of the board of trustees, as the case may be, by and with the consent of the city council or board of trustees, as the case may be, remove any director for misconduct or neglect of duty.

Article 5. Vacancies in the board of directors, occasioned by removal, resignation or otherwise, shall be reported to the city council or board of trustees, as the case may be, and be filled in like manner as original appointments, and no director shall receive compensation as such and shall not be interested, directly or indirectly, in the purchase or sale of any supplies for said sanitarium.

Article 6. Said directors shall immediately after appointment, meet and organize by the election of

one of their number president and one as secretary, and by the election of such other officers as they may deem necessary. They shall make and adopt such by-laws, rules and regulations for their own guidance and for the government of the sanatorium and the branches, dispensaries and auxiliary institutions and activities connected therewith as may be expedient, not inconsistent with this act and the ordinances of such city or village. They shall have the exclusive control of the expenditure of all moneys collected to the credit of the "Tuberculosis Sanitarium Fund," and of the construction of any sanitarium building or other buildings necessary for its branches, dispensaries and other auxiliary institutions and activities in connection with said institution, and of the supervision, care and custody of the grounds, rooms or buildings constructed, leased or set apart for this purpose: Provided, that all moneys received for such sanitarium shall be deposited in the treasury of said village or city to the credit of the "Tuberculosis Sanitarium Fund" and shall not be used for any other purpose, and shall be drawn on by the proper officers of said city or village on the properly authenticated vouchers of the Sanitarium Board. Said board shall have the power to purchase or lease ground within or without the limits of such city or village, and to occupy, lease or erect an appropriate building or buildings for the use of said sanitarium, branches, dispensaries and other auxiliary institutions and activities connected therewith, by and with the approval of the city council or board of trustees, as the case may be; and shall have the power to appoint suitable superintendents or matrons, or both, and all necessary assistants, and fix their compensations, and shall also have the power to remove such appointees, and shall in general carry out the spirit and intent of this act in establishing and maintaining a public sanitarium, and one or all of said directors shall visit and examine said sanitarium at least twice in each month and make monthly reports of its condition to the city council or board of trustees, as the case may be.

Article 7. Every sanitarium established under this Act shall be free for the benefit of the inhabitants of such city or village who may be afflicted with tuberculosis, and they shall be entitled to occupancy, nursing, care, medicines and attendance according to the rules and regulations prescribed by said board. Such sanitarium shall always be subject to such reasonable rules and regulations as said board may adopt in order to render the use of said sanitarium of the greatest benefit to the greatest number, and said board may exclude from the use of said sanitarium any and all inhabitants and persons who shall willfully violate such rules or regulations.

Provided, however, that no person so afflicted be compelled to enter such sanitarium, or any of its branches, dispensaries or other auxiliary institutions without his consent in writing first having been obtained, or in case of a minor or one under a disability the consent in writing of the parents, guardian or conservator, as the case may be.

Said board shall, on request or by consent of the party afflicted or the legal guardian, conservator or parents thereof, have the power to extend the benefits

and privileges of such institution, under proper rules and regulations, into the homes of persons afflicted with tuberculosis, and to furnish nurses, instruction, medicines, attendance and all other aid necessary to effect a cure, and to do all things in and about the treatment and care of persons so afflicted which will have a tendency to effect a cure of the person or persons afflicted therewith and to stamp out tuberculosis in such city or village.

And said board may extend the privileges and use of such sanitarium and treatment to persons residing outside of such city or village in this state so afflicted, upon such terms and conditions as said board may from time to time by its rules and regulations prescribe.

Article 8. Said board of directors, in the name of the city or village, may receive from any inhabitant or person any contribution or donation of money or property, and shall pay over to said city or village treasurer all moneys thus received as often as once in each month and shall take the receipt of such treasurer therefor; and shall also, at the regular monthly meeting of the city council or board of trustees, report to such city council or board of trustees the names of such persons or inhabitants from whom any such contribution or donation has been received and the amount and nature of property so received from such and the date when the same was received. And said board of directors shall make, on or before the second Monday in June of each year, an annual report to the city council or board of trustees, as the case may be, stating the condition of their trust on the first day of June of that year, the various sums of money received from the "Sanitarium Fund" and from other sources and how much moneys have been expended and for what purposes; the number of patients and such other statistics, information and suggestions as they may deem of general interest.

Article 9. When such sanitarium is established, the physicians, nurses, attendants, the persons sick therein and all persons approaching or coming within the limits of the same or grounds thereof, and all furniture and other articles used or brought there, shall be subject to such rules and regulations as said board may prescribe; and such rules and regulations shall extend to all branches, dispensaries and other auxiliary institutions located within or without such city or village and to all employees in same, and to all employees sent to the homes of the afflicted as herein provided for.

Article 10. Any person desiring to make any donation, bequest or devise of any money, personal property or real estate for the benefit of such sanitarium shall have the right to vest the title to the money, personal property or real estate so donated to the board of directors created under this act, to be held and controlled by such board, when accepted, according to the terms of the deed, gift, devise or bequest of such property and as to such property the said board shall be held and considered to be special trustees.

Article 11. All reputable physicians shall have equal privileges in treating patients in said sanitarium.

METHODS OF CONTROL OF TUBERCULOSIS *

SUMNER M. MILLER, M.D.

PEORIA, ILL.

The control of tuberculosis is the most difficult social and health problem that confronts society to-day. The measures that have mitigated the scourge of the acute contagious diseases are applicable to tuberculosis in but a very limited way. The prolonged course of the disease, and the social and economic factors that foster its growth render the problem a thousandfold more difficult and complex. Far better were it for the consumptive and the community alike if tuberculosis ran its course in days or weeks, like the acute infections, instead of dragging its slow length along through months and years, multiplying the suffering of the individual and the menace to the community. The control of tuberculosis is the most pressing problem that we have to deal with to-day. The prolonged ill health and disability, the tremendous mortality, the economic loss, the pauperization and dependence of the afflicted, the lowered moral tone of poverty, as well as the exposure of all to infection—all are factors that vitally affect every individual and urgently demand the application of the known methods of control.

The present propaganda for its eradication had its origin in private agencies that have arisen in every community and state, all of which activities are coordinated in the national organization. However, it early became manifest that no private agency could ever exercise the authority necessary to control tuberculosis. These organizations therefore have had their activities limited to education, and to the crystallization of public opinion that must be the forerunner of legislation. Education and relief have in the main constituted the scope of the antitubercular and other societies engaged in this work. They have paved the way for restrictive legislation. It has long been recognized that the authoritative control must be assumed by state and community. The national government has very little part to play in the direct control of tuberculosis.

A scrutiny of various enactments shows a universal movement tending toward state and municipal control. Only five states have not taken some measures tending to limit the spread of the disease. The most striking fact revealed is that while there has been much legislation

* Read at the Annual Meeting of the Illinois State Medical Society, held at Peoria, May 20, 1913, Section on Public Health and Hygiene.

directed against tuberculosis, not one state or community has adopted a broad and comprehensive plan for control. Legislative acts have been unrelated and haphazard, usually being directed towards the most apparent need. Some have been illogical or incomplete, as for example, an act in force in Missouri, which provides that no person suffering from tuberculosis shall be employed in a bakery. Now we find consumptives in every trade, among cigar makers, laundry workers, restaurant employees and tailors. Moreover, there is obviously less danger of contracting tuberculosis from bakery employees than from other trades, or other sources of food-supply, for, as the tubercle bacilli are killed by the heat of baking, the consumer is fairly safe from infection from this source. This law should be more comprehensive, and should have for its object the protection of the public—the consumer and the fellow employee of the affected individual, and should include all occupations in which there is danger to either group.

Consider the legislation of Connecticut, a state that ranks as one of the most progressive in the state control of the disease. In 1901 an act was passed requiring the registration of cases, and the disinfection of quarters that had been occupied by consumptives. In 1903 an appropriation was made for the establishment of a state sanatorium. In 1907 a tenement law was placed on the books with provisions for sanitation and prevention of tuberculosis. Having gone thus far, a commission was next appointed to investigate the causes, prevalence and methods of prevention of tuberculosis. In 1909, a revised registration act was passed and an antisputting law was passed the same year. In 1910, an act was passed providing for the erection of county sanatoria at state expense, and in 1911, funds were appropriated for subsidizing private free tubercular hospitals. This is illustrative of the groping and haphazard character of legislative attempts at control. Heterogeneous but uncorrelated enactments, some good and some inadequate constitute the efforts to control. Important gaps remain unfilled.

Twenty-eight states have state sanatoria in operation, or in course of erection. Massachusetts has five, and two of the states have two each. Many municipalities have their own sanatoria in addition. Six other states provide for the care of indigent consumptives at state expense in private institutions. Twenty-two states and innumerable cities require registration and disinfection. Over half of the states have antisputting laws. None is so universal, and none is more

universally disregarded. Seven states provide for the erection of county or city sanatoria, usually, as in Illinois, by referendum vote. In one instance, it is mandatory on the county to provide separate sanatoria from the county hospitals for indigent consumptives, though any two or not to exceed five counties may unite to build a sanatorium. This provision is evidently designed to meet the needs of more sparsely settled districts. In one instance, the state builds the county sanatoria at state expense. Pennsylvania has one hundred and fifteen county dispensaries, maintained by the state, and another state has nine county dispensaries. Two states prohibit the importation of cattle unless they have been tuberculin tested. Three states exclude tubercular schoolchildren from the schools, while some states and communities are providing open air schoolrooms in all new schoolbuildings, and in the old ones where practical. Three states provide for instruction in the public and normal schools in regard to tuberculosis, and several have traveling tuberculosis exhibits, and California has a state lecturer on tuberculosis. Many states issue educational literature. Two communities have advanced legislation empowering the board of health to commit a person suffering from tuberculosis, who, by his habits, endangers the public, to a sanatorium. Many municipalities as well as private agencies have visiting nurses and dispensaries. Besides these diverse enactments there is a host of others, that bear indirectly on tuberculosis, as those relating to factory and tenement sanitation.

This brief review of the status of antitubercular legislation shows how universal has been the movement to control tuberculosis. It also demonstrates the absence of a complete program in any state. Heterogeneous acts, most of which are good, but uncorrelated, constitute the efforts of legislative bodies to control. While no plan will be elastic enough to meet the requirements of every community—for local conditions must be met—yet the essential principles of control remain fixed, and with alterations can be adapted to universal use. It is possible, from the mass of legislation, to weave this diversification of effort into a coherent and comprehensive plan to control the disease. Three objects are to be attained: First and foremost, the prevention of the spread of tuberculosis, the protection of the public; second, the cure of the afflicted, and third, the education of the public. The measures by which the first is accomplished fortunately are those that will also accomplish the second.

It is my conviction that the work would best be prosecuted by a special commission to control and direct the various antitubercular efforts. The magnitude and importance of the work demand this. At present, the enforcement of these measures is scattered, some are under the control of charity boards, while others are executed by boards of health, and hospitals are managed by separate commissions. This work is in part health work and in part relief work. All of the activities tending to diminish tuberculosis would be better enforced under one centralized control, rather than that they should be scattered through several bodies.

The first and most valuable measure in any plan to control tuberculosis is the requirement of registration of all cases. We must find the consumptive in order to break the chain of infection. Registration should be a state measure, for the purpose of uniformity and universal application. As a corollary to this, the provision that premises that have been occupied by consumptives shall be disinfected after removal or death of the consumptive, is the next logical step in prevention. These two principles are well recognized, and are rapidly becoming universal. After getting in touch with the consumptive, the close and intelligent supervision and control of his daily life and habits is necessary, to the end that he may not constitute a menace to the health of those in contact with him. The visiting nurse and the dispensary are invaluable for this purpose. The dispensary brings to light many cases before unknown, and keeps in touch with them, and with their families; watching particularly the remaining members of the family for evidence of the disease. Besides supervision, the educational value of the dispensary and nurse is immeasurable. It is the function of the nurse to maintain direct supervision over the consumptive, visiting him at weekly intervals, and leaving specific and detailed information as to the proper measures for the protection of family and fellow employees. In this connection comes the next step in a complete plan of control, the sanatorium, of which there should be one in every community. In the event that the home environment is such that other members of the family are exposed, or if the consumptive does not observe the rules of hygiene as laid down by the nurse for their protection, so that they are endangered, the state should be empowered to remove him to a sanatorium where he can be controlled, and where he will no longer be a menace to neighbors or family. San Francisco has such a statute. The sanatorium therefore attains two important ends, the

cure of the consumptive and the protection of the community.

The construction and control of sanatoria should be undertaken by the state in each community, and not by local authorities. This insures uniformity, adequate accommodations and efficient management. The value of the state-controlled institution over that one which depends on a board of county commissioners is demonstrated by the care of the insane in state institutions as compared with their former deplorable condition, when but a few years ago a great number of insane were housed at the county poor farms. The sanatoria should be distributed in proportion to the density of population, so that each indigent consumptive may be cared for in his own community. In some instances this would be a city, in others a county, and in other more sparsely settled districts, several counties, as is provided for in one state. The state should be districted in proportion to the density of population. Each district should have a sanatorium, whose superintendent should supervise the work in that district, to whom cases would be reported and who would control sanatoria, dispensaries and visiting nurses, and who would have the power to remove dangerous consumptives to the sanatorium, where the two-fold object of isolation and cure could be prosecuted. I believe in state sanatoria, but do not believe that state-wide sanatoria are effective.

In connection with the law empowering the state to remove a consumptive who is a menace, there is also a very good statute in Massachusetts which provides that any person who may avail himself of public aid is not therefore to be adjudged a pauper. The public sanatorium should be free to the indigent, but those who have the means should pay. This is the rule in most public sanatoria.

These measures comprise the essentials of a broad scheme for control and protection of the community from the consumptive, who is the great source of danger and infection of others. The application of such a system would reduce the death-rate from tuberculosis in twenty years to less than one-fourth of its present mortality. There are many auxiliary measures which have great value. Chief among them are the exclusion of consumptives from trades in which they may endanger their fellow employees or the public; the exclusion of children suffering from tuberculosis of the lungs from the public schools, and the establishment of separate open-air schools for them; the provision for the extension of the educational campaign by state exhibits,

lectures, literature and by compulsory teaching in the schools; and very important preventive measures and measures much neglected in legislative enactment are those relating to the prevention of the transmission of tuberculosis from cattle to man. Chief among these are the compulsory application of the tuberculin test to all dairy herds and the exclusion of all cows found to be actively suffering from tuberculosis. Moreover, there is need for stringent state measures providing for the inspection of all meat and slaughtered cattle, and for the prevention of the sale of tubercular meat. A packer who engages in interstate business is subject to federal supervision and the public is adequately protected. If, however, he confines his business within the borders of his own state, as happens here in Peoria, he escapes supervision and control by federal inspectors, and in the absence of state supervision is at liberty to butcher cattle in any stage of tuberculosis—cattle that would not pass federal inspection.

The national government should make extensive studies of the underlying causes, of the social conditions that breed tuberculosis and of the methods of prevention and correction of these underlying conditions. If the government can devote hundreds of thousands of dollars and the services of a whole department to the study of disease in animals and plants, it should surely do as much for its citizens.

Advanced and enlightened public opinion must be the antecedent of statute requirements. Legislation cannot anticipate the wishes of the people. Therefore, much as these minimum requirements for the control of tuberculosis are needed, their general adoption will be slow. However, every feature of such a broad plan as I have outlined has been adopted in some community. The chief advance lies in the suggestion for the shifting of control from community to state, and the gathering together of scattered fragments to make a symmetrical whole.

DISCUSSION

T. O. Hardesty, Jacksonville: The subject of the control of tuberculosis is one of the most complex subjects we have to deal with. It is so widespread that at the present time I do not think we are ready for any drastic laws concerning its suppression.

It seems to me this is an educational period. We must educate those infected, also educate and arouse the public to the necessity of systematic, organized action. Lectures, societies and public meetings serve this purpose well, yet that is not all. I have always contended that to accomplish the most we must come in personal touch with the consumptives in their homes and I feel that the visiting nurse is the most

satisfactory way. The clinic serves a splendid purpose; besides being a place for treatment, it is a center from which to work, and is a means of keeping in constant touch with the patient. One of the hardest things we have had to contend with is keeping of patients interested in themselves. Experience has taught me that the doctors also have to be educated along these lines. Many of them have not caught the idea.

There are two classes of tuberculous cases to deal with, those with means and those without. The first will take care of themselves under the care of their private doctor. The second, with no funds, by far the largest in number, presents the problem we have to deal with in a social, medical and financial way. This class may be divided into those that can be helped and cured and those that cannot be helped. Those that can be helped and cured should be at public expense, that they may become self-sustaining. The terminal cases, all are agreed, should be hospital charges for the sake of charity, for the relief and the safety of the family and for the good of the commonwealth. Our only hope so far of eradication is in prevention. At the present time I do not think a state sanatorium at all practical. It cannot possibly fill the bill. It cannot reach the people. It cannot hold all the tuberculous cases. It cannot be kept out of politics. You cannot get the larger percent. of cases to go there. I do not hesitate to say it cannot be solved this way. Under present conditions and management I do not think the county farms would be a good place to segregate the tuberculosis cases. However, I think the sanatorium work, to be practical, must be cared for locally, not by smaller cities; the unit should not be smaller than the county, and two or three might work together to advantage.

Some think the first thing to do is to start a sanatorium, not considering what such an undertaking means in expense for ground, buildings, help or provisions. County boards are slow in appropriating county funds in large amount continually for the maintenance of such an undertaking. I think the time is not far distant when you will find general hospitals much more numerous than at the present time. In fact, you can hardly find a county that does not need a general hospital. Two counties could well use a general municipal hospital. In connection with a general hospital could be tents, shacks, wards, etc., for tuberculosis, added with the least expense and the greatest benefit to the community.

Where hospitals are now located I believe the quickest and best solution would be for those interested in the work to have the hospitals take up this special work. In Illinois there are 281 hospitals, including the state institutions. Chicago has 101. I should think that in the state at least 100 of these hospitals, with the aid of those interested in tuberculosis, could make arrangements for the care of consumptives in a modern way. Many cases could be cared for with much less expense to the municipality than is possible in any other way. I feel sure that the plan now being agitated is not practical at the present time, but is serving a good purpose in being a stepping stone to a better solution of the work.

STATUS OF VITAL STATISTICS IN ILLINOIS AND OUR OBLIGATIONS *

T. H. D. GRIFFITTS, M.D.

State Board of Health, Springfield, Illinois
SPRINGFIELD, ILL.

Almost in the wake of the great Civil War, when Shelby M. Cullom, in 1877, was serving his second term as Governor of Illinois, there was conceived in the State Medical Society and born of the people through their chosen representatives, a Board of Health, having as its solemn heritage the "general supervision of the interests of the health and life of the citizens of the state."

In those primeval days of the state's supervision of the public health, it was recognized that the registration of vital statistics constituted the basis of all public health endeavors. Consequently, when the Act creating and establishing a Board of Health was written, seven of the fourteen sections of that measure were devoted to stipulations calculated to insure the registration of all births, marriages and deaths in the state. Among other things, Section 3 of the Act provided that the State Board of Health shall "recommend such legislation as shall be deemed necessary for the thorough registration of vital and mortuary statistics throughout the state."

It is a sad commentary on the activities of the Board of Health that for twenty-three years, during which time we have no records of births and deaths, no effective recommendations for legislation or regulation were made. But in 1901, this quiescence was briefly disturbed by recommendations on the part of the Board of Health and enactment into law of an effective measure for the registration of births and deaths. The law of 1901 was enforced for eighteen months, when it was repealed and the present substitute law was passed.

No two events in the world's history stand out in bolder relief than the birth and the death of Christ, and in the life of an individual these two events are still of prime importance. And yet, do you know that down in central Illinois there recently died a man who was born in this state, was educated, lived an honorable and useful life, and to earth returned, and now not one page of the record books of his county or state bear even mute testimony of his ever having had existence. This was John, the eldest son of Prosperous Farmer, a stock raiser. On his fields to-day are to be found his registered Jersey,

Holstein and Alderney bulls and cows, registered sheep and hogs; a registered bull-dog, and in the stables an ass with a pedigree as long as a petition for woman suffrage, and a stallion the proud possessor of a certificate of registration under the laws of the State of Illinois—the same law for the enforcement of which the legislature appropriates \$16,730 annually, \$1,500 of this amount being set aside for postage, an amount just equal to the specific appropriation for the registration of births and deaths of human beings. Old Doctor Careless was Mr. Farmer's family physician; he ushered the babe into the world, and administered to him at life's sunset. No one registered the vital events in the man's life. It did not seem of importance.

One hundred and fifty thousand children will be born in Illinois this year and will start the struggle of life, and before they reach the first anniversary of their birth, more than 15,000 will have died from diseases, 50 per cent. of which are preventable. And it is not for me to say to you here to-day that prompt and accurate birth registration is the foundation of all measures directed toward the prevention of infant mortality. The birth certificate is the little "Star of Bethlehem" to direct the conservation of child-life. Preventing or postponing infant deaths, as well as many others, is largely a matter of correctly applying funds. The writer believes in the truth of the motto of the Health Department of New York City: "Public health is purchasable. Within natural limitations a community can determine its own death-rate."

I want to invite your attention to an astounding legislative record. The Forty-Seventh General Assembly appropriated approximately \$295,000 for the Game Department; \$30,000 for "bird seed" and "cabbage" (feed for the birds and animals), and \$20,000 for the purchase of additional plumage and fur; \$16,730 for the Stallion Registration Board; for killing "Chinch bugs," \$8,000; to prevent "foul brood" in honey bees, \$3,000—salary for the state inspector of apiaries; for the biological laboratory maintained for the prevention of hog cholera, \$80,000. I am not raising a voice of protest and would not, if I could, point a devastating finger to our honorable legislators. I fear that we as physicians to whom the people look for guidance in matters affecting their health are in a large measure responsible for the fact that we get so little for health protection. Other agencies agitate and create public sentiment that demands legislative consideration. There are those who maintain that the subject of vital statistics is not the "doctors' affair," but

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913.

the public sentiment which will demand proper recognition of this subject in Illinois in the near future will have the medical profession as its creator—just as the inspiration for a better order of things in a public health way came from the State Medical Society back in the seventies. The writer believes in the individual physician and in our organization; he, as well as the people, sees in the physicians the right, the judgment and the ability to administer and counsel in the public health administration of the commonwealth.

Notwithstanding the fact that the law requires that every birth occurring in this state shall be recorded with the county clerks within thirty days, and that physicians and midwives and coroners shall report all deaths occurring in their practice or coming under their jurisdiction, a penalty being provided, to-day less than 75 per cent. of the total number of deaths and not to exceed 55 per cent. of the births are ever reported or recorded.

The law requires that all deaths occurring in the practices of physicians and midwives and those coming under the jurisdiction of coroners shall be reported directly to the State Board of Health, except deaths occurring in municipalities the ordinances of which require that no body may be buried or removed for burial, unless there is first presented to the city clerk or other official a proper certificate of death, and a burial or removal permit is issued. Cities and villages with an aggregate population of 60 per cent. of the total population of the state have adopted such ordinances, and returns more or less satisfactory are received from these municipalities. Taken by counties, it is generally noticeable that the reported death-rates are directly proportionate to the percentage of the county's population under enforced burial permit ordinances.

In view of satisfactory results to be obtained through the application of municipal burial permit requirements, the writer has held and still maintains, that in the absence of the so-called "model law" (or a modification) and a generous appropriation to insure its enforcement, our energies would best be applied in an effort to strengthen the present statutes by requiring that cities and villages of, we will say, 500 or more population shall require burial permits before the burial or other disposal of a dead human body may be done. This would give accurate mortality statistics from over 75 per cent. of our population. It should be borne in mind that the fault has not been so much a lack of law as of law enforcement in this state. At no time since 1877—thirty-six years ago—have we been without

statutory provision for the collection of mortuary and birth statistics, but at no time have we observed the law enforced.

Only two counties in the state in 1911 gave reported death-rates as high as the average rate for the registration area of the United States in 1910—15 per 1,000 population. These counties were Morgan (15.6) and Adams (15.3). Both of these counties have institutions with a dying population. Eight counties gave reported rates lower than 5 per 1,000 population. The average reported death-rate for that year was 11.3 per 1,000 of population; the average birth-rate, 15.6, and this latter doubled would not show us as a state too prolific. Consequently, our death-rates when published are useless, except to indicate the deplorable condition of our vital statistics. (See table.)

If we are to maintain a department of vital statistics for the collection and "compilation of statistical data essential to the proper and intelligent supervision of the public health," to quote the late Secretary of the Illinois State Board of Health, Dr. James A. Egan, we must have an efficient law with the compensation of the registrar commensurate with the professional ability demanded and funds for enforcement of the law by the Board of Health.

Do you suppose that the people would be astonished if there were employed a "field assistant" at \$1,500 a year, to look after the registration of babies just as is now done by the Stallion Registration Board for the enforcement of the stallion registration law? I implore you individually not to relent in this fight for the welfare of children, men and women of this state, until such recognition is accorded human life, as is given to the hogs, birds, fish, cattle and horses throughout the state. It is said of the long-eared, sleepy-eyed mule that he is a forlorn creature that "has no pride in his ancestry nor hopes for posterity." Under the laws he can't dodge his ancestral record. Man demands this, but neglects his own.

In conclusion, I want to direct your attention, as it has been brought to your attention before by our Committee on Legislation, to the bill (Senate Bill 313) which has passed the Senate and is pending in the House, providing for complete registration of births and deaths. Although defective, it is in most essential features similar to the "model bill," and a great improvement over the present law. Every member of this society and every other person having the future welfare of the people at heart should write their Representatives to vote for the passage of the bill

Counties.	Population, 1910 Census	Percentage of Popula- tion Under Burial Per- mit Ord- inances	Estimated 1911 Mid- year Popu- lation	Total Re- ported Deaths, 1911	Reported Death Rate Per 1,000 Est. Mid-y'r Population, 1911	Total Re- ported Births, 1911	Rep. Crude Birth Rate Per 1,000 Est. Mid-y'r Population, 1911
Adams	64,588	56.6	64,401	987	15.3	755	11.7
Alexander	22,741	....	23,151	236	10.2	423	18.3
Bond	17,075	24.6	17,187	108	6.3	328	19.1
Boone	15,481	....	15,481	106	6.8	201	13.0
Brown	10,397	....	10,397	81	7.8	154	14.8
Bureau	43,975	27.7	44,325	299	6.7	714	16.1
Calhoun	8,610	....	8,610	88	10.2	165	19.2
Carroll	18,035	....	18,035	141	7.8	306	17.0
Cass	17,372	35.2	17,390	145	8.3	298	17.1
Champaign	51,829	39.9	52,345	456	8.7	1,160	22.1
Christian	34,594	15.7	34,815	271	7.8	749	21.5
Clark	23,517	15.8	23,517	121	5.1	462	19.6
Clay	18,661	....	18,661	136	7.3	529	28.3
Clinton	22,832	....	23,200	179	7.7	450	19.4
Coles	34,517	36.5	34,562	405	11.7	748	21.6
Cook	2,405,233	98.3	2,463,132	34,521	14.0	31,285	12.7
Crawford	26,281	....	27,142	156	5.7	577	21.3
Cumberland	14,281	....	14,054	132	9.5	382	27.2
DeKalb	33,457	36.0	33,664	269	8.0	617	18.3
DeWitt	18,906	27.3	18,906	180	9.5	432	23.0
Douglas	19,591	6.5	19,651	140	7.1	425	21.6
DuPage	33,432	42.7	34,072	307	9.0	460	13.5
Edgar	27,336	....	27,219	199	7.3	539	19.8
Edwards	10,049	12.7	10,015	30	3.0	194	19.4
Effingham	20,055	14.5	20,007	159	7.9	379	18.9
Fayette	28,075	....	28,075	163	5.8	417	14.9
Ford	17,096	29.2	16,940	114	6.7	253	14.9
Franklin	25,943	5.0	26,710	91	3.4	380	14.2
Fulton	49,549	21.1	49,958	451	9.0	894	17.9
Gallatin	14,628	....	14,481	123	8.5	322	22.2
Greene	22,363	13.9	22,236	180	8.1	441	19.8
Grundy	24,162	22.3	24,162	123	5.1	441	18.3
Hamilton	18,227	....	17,988	78	4.3	380	21.1
Hancock	30,638	....	30,446	198	6.5	415	13.6
Hardin	7,015	....	6,964	16	2.3	113	16.2
Henderson	9,724	....	9,589	24	2.5	59	6.2
Henry	41,736	28.3	41,942	401	9.6	793	19.0
Iroquois	35,543	....	35,243	221	6.3	716	20.3
Jackson	35,143	19.3	35,299	256	7.3	445	13.2
Jasper	18,157	....	17,912	122	6.8	422	23.6
Jefferson	29,111	....	29,230	153	5.2	656	22.4
Jersey	13,954	....	13,872	122	8.8	217	15.6
Jo Daviess	22,657	5.5	22,427	150	6.7	265	11.8
Johnson	14,331	....	14,171	100	7.1	293	20.7
Kane	91,862	72.6	93,481	1,217	13.0	1,519	16.3
Kankakee	40,752	....	41,191	521	12.6	755	18.3
Kendall	10,777	....	10,695	78	7.3	158	14.8
Knox	46,159	47.9	46,469	453	9.8	659	14.2
Lake	55,058	59.8	57,571	556	9.7	1,023	17.8
LaSalle	90,132	40.5	90,417	817	9.0	1,302	14.4
Lawrence	22,661	....	23,413	136	5.8	629	26.9
Lee	27,750	32.3	27,488	240	8.7	438	15.9
Livingston	40,465	21.2	40,274	299	7.4	624	15.5
Logan	30,216	37.7	30,404	317	10.4	393	12.3
Macon	54,186	57.5	55,432	570	10.3	1,144	20.6
Macoupin	50,685	38.7	51,716	438	8.5	1,119	21.6
Madison	89,847	61.1	92,924	974	10.5	1,513	16.3
Marion	35,094	4.0	35,662	222	6.2	490	13.7
Marshall	15,679	9.2	15,594	124	7.9	308	19.7
Mason	17,377	23.0	17,377	191	11.0	338	19.5
Massac	14,200	....	14,332	122	8.5	263	18.4
McDonough	26,887	5.1	26,701	178	6.7	368	13.8
McHenry	32,509	9.3	32,846	283	8.6	458	13.9
McLean	68,008	37.9	68,028	652	9.6	1,139	16.7
Menard	12,796	30.7	12,608	99	7.9	283	22.4
Mercer	19,723	....	19,574	74	3.8	267	13.6
Monroe	13,508	15.4	13,508	121	9.0	159	11.8
Montgomery	35,311	21.1	35,859	327	9.1	1,035	28.9
Morgan	34,420	49.0	34,349	536	15.6	557	16.2
Moultrie	14,630	17.9	14,556	120	8.2	380	26.1
Ogle	27,864	....	27,708	149	5.4	391	14.1
Peoria	100,255	68.6	103,679	1,427	13.9	1,417	13.7
Perry	22,088	....	22,365	107	4.8	421	18.8
Platt	16,376	....	16,203	106	6.5	295	18.2
Pike	28,622	....	28,327	253	8.9	527	18.9
Pope	11,215	....	10,925	61	5.6	241	22.1
Pulaski	15,650	....	15,783	119	7.5	211	13.4
Putnam	7,561	....	7,846	42	5.4	200	25.5
Randolph	29,120	17.2	29,255	233	8.0	514	17.6
Richland	15,970	31.4	15,917	83	5.2	360	22.6
Rock Island	70,404	74.4	72,259	987	13.7	1,112	15.4
Saline	30,204	....	31,247	226	7.2	833	26.7
Sangamon	91,024	56.8	93,402	1,165	12.5	1,445	15.5
Schuyler	14,852	16.3	14,713	102	6.9	181	12.3
Scott	10,067	....	10,021	42	4.2	168	16.8
Shelby	31,693	11.3	31,642	249	7.9	657	20.8
Stark	10,098	....	10,098	67	6.6	149	14.8
St. Clair	119,870	70.8	123,931	1,521	12.3	2,088	16.8
Stephenson	36,821	47.7	37,052	386	10.4	565	15.3
Tazewell	34,027	32.5	34,126	304	9.0	684	20.0
Union	21,856	4.5	21,765	311	14.3	467	21.5
Vermilion	77,996	46.3	79,508	1,074	13.5	1,559	19.6
Wabash	14,913	....	15,196	96	6.3	402	26.5
Warren	23,313	43.1	23,331	224	9.6	308	13.2
Washington	18,759	....	18,666	134	7.2	335	17.9
Wayne	25,697	....	25,462	134	5.3	554	21.8
White	23,052	....	22,766	123	5.4	489	21.5
Whiteside	34,507	....	34,507	257	7.4	630	18.3
Will	34,371	44.0	85,547	813	9.5	1,561	18.2
Williamson	45,098	....	47,215	271	5.7	1,200	25.4
Winnebago	63,153	71.9	65,026	733	11.3	1,196	18.4
Woodford	20,506	....	20,346	168	8.3	449	22.1
Total	5,638,591	59.2	5,729,967	64,565	11.3	89,584	15.6

*From Bulletin Illinois State Board of Health, October, 1912, pp. 798-99.

and a liberal appropriation for its enforcement. We must have vital statistics, so that our published death-rate will mean an index to sanitary conditions and will be an efficiency check on the measures directed toward the conservation of human life, that will bespeak the actual rate of dying instead of the lack of reporting, that will indicate fruitfulness instead of failure of the reports of births.

DISCUSSION

Dr. C. W. Lillie, East St. Louis: It is obvious from the statements made by Dr. Griffiths in his paper that something should be done; and, while he has not positively and definitely fixed the responsibility for the present conditions on the physicians, and has in a great measure exonerated legislators from their responsibility in the matter, we must not let it rest at that. It appears to me that we cannot better serve the public than by insisting that the responsibility lies very largely with the physician. I can very well recall the time prior to the adoption of the present law, and its fair degree of enforcement in our own city, East St. Louis, the indifference in regard to registration of births and the absolute disregard of the state board requirements; and this condition prevailed not only in East St. Louis but elsewhere throughout the state. Up to the time when this law went into effect, when physicians were to be compensated in some degree for reporting births and deaths, it was avowedly an open matter that none were reported by many physicians and none by midwives. As the matter then stood persons had been born, lived long and useful lives, died and were buried, and no record of their existence had ever been made. As stated in the paper, the very fact that so much attention has been paid to the registration of animals, and so much money has been applied to the conservation of their health and the prevention of diseases among them, and so little done in that direction for the human being, appears to show a very unjust discrimination in favor of animals. But the reason for it is obvious. The reason for it is that there is a distinct commercial value on an animal, a value which can be realized in a short time, while there is only a remote probability of a money value on the newborn human being. While we should feel for the "baby," and we do sentimentally have great admiration for it, it is usually those with whom we are connected through ties of consanguinity for whom we manifest the greatest concern, and not because of the fact that they are human beings. It is our own individual relatives and friends, and our own clientele, which merits and receives our best attention. The ones that do not come under our own observation should be equally protected, and more earnestly protected from the preventable diseases than those who are under our care for the reason that many of these are born under adverse circumstances, and are in the care of ignorant persons who know but little of the proper care of the healthy and nothing of the care of the diseased or of the prevention of disease. It is for the sake of the helpless that we should urge the adoption of such laws as will aid in the proper attention to our "vital statistics" as one of the surest measures for the conservation of human life.

Dr. T. H. D. Griffiths, Springfield (closing the discussion): There is very little I wish to say in closing the discussion except to refer to the remarks of Dr. Lillie that I in a measure exonerated the legislators. I did this, but I want it understood that I believe if the physicians, as a rule, should get as busy in matters of this kind, where the lives of human beings should be protected, the same as do other agencies when the lives of hogs and cattle are at stake, it would be only a short time when we would have satisfactory conditions in relation to vital statistics in Illinois. Several members of the Legislature have said to me in regard to public health measures that physicians are too inactive; on the contrary, whenever the osteopaths put in a bill they would get every layman they could who was interested in the bill to write letters to their Senators and Representatives, and the members would get forty letters from osteopaths and their friends to one letter from physicians. There is no doubt what we can do personally and with the influence of our friends in public health legislation. The members of the state society should awaken to the importance of legislation for the physical welfare of the people. The inspiration must come from our profession.

DANGER SIGNALS IN SUPPURATION OF THE MIDDLE EAR *

J. HOLINGER, M.D.

CHICAGO

Acting on a suggestion made by a general practitioner, I have chosen to discuss the symptoms which indicate that an infection of the middle ear has progressed beyond the limits of this organ, and is about to invade its surroundings; in other words, the symptoms of a disease which has changed from a comparatively innocent affection into one which has a very high mortality, or which at best leaves the patient a cripple. When a physician, under the vivid impression of a sudden unexpected death from this cause, seeks an explanation in text-books, he has difficulty in finding it, because it is scattered over so many different chapters. It is my object in this discussion to endeavor to give a survey of these signals of approaching danger, combining the text-book knowledge with a personal experience of more than twenty-two years.

A great many lives may be saved that are now lost from complications of suppurations of the middle ear, but by no means all. Some deaths from this cause are unavoidable, either because the patient does not seek advice in time, or because the complication starts practically simultaneously with the disease. The simple inflammation of the mastoid process, and the indications for mastoid operation will not be discussed.

* Read before the Chicago Medical Society, April 30, 1913.

because the cells of the mastoid process are a part of the middle ear, and a certain amount of inflammation of the cells is part and parcel of every inflammation of the middle ear. Complications are much more frequent in the course of chronic suppurations than in acute. They are: 1. Suppuration of the labyrinth. 2. Septic thrombophlebitis of the lateral sinus and the jugular vein, especially its bulb. 3. Extradural abscess. 4. General meningitis. 5. Brain abscess. 6. Bezold's mastoiditis (perforation into the neck below the fascia of the sternomastoid muscle).

Whenever the labyrinth is invaded in an acute suppuration, the entrance is effected through one of the windows, either the round or the oval window. The consequence is a general labyrinthitis or panotitis. The symptoms are sudden loss of hearing, vertigo, nystagmus and usually vomiting. In some few cases rest and application of ice may stop the process, but usually the infection will travel along the acoustic nerve and through the aqueducts, inducing general meningitis; causing death within a few hours or days. In chronic suppurations the process is usually much slower. One of the semicircular canals, or one of the windows is opened by the process of necrosis, but granulations often have time to develop and form a cofferdam against the progress. The symptoms are similar to those in acute cases, but not so foudroyant. These patients walk and feel as though they were drunk, and frequently also complain of sudden loss of hearing.

In these we have, therefore, established the first danger signals, and it is evident that no trace of swelling or sensitiveness behind the ear may be present.

The second most frequent complication is thrombophlebitis of the lateral sinus and jugular bulb and vein. The text-books give as symptoms swelling of the eyelids and rigidity and stiffness along the course of the jugular vein. Gentlemen, if you wait for these symptoms you will lose every one of these patients, because the swelling of the eyelids indicates that several or most of the blood sinuses of the base of the brain are thrombosed, and the stiffness along the course of the jugular vein shows that the disease is not far from the auricle of the right heart. Long before the disease has progressed that far, repeated attacks of chills with high fever, 104° and 105° F., alternating with longer or shorter perfectly normal periods, indicate that the disease has forced a passage from which it can throw large quantities of septic material into the circulation. Absorption of septic material can only take place

through the narrow channels in the bone as long as the suppuration is confined to the cavities of the middle ear. Even in extensive mastoiditis with intense pain, the temperature rarely rises above 102° or 103° F. The repeated sudden attacks of chills and fever are therefore pathognomonic. They are often combined with sudden attacks of pain in the lungs, cough, rusty sputum and the physical signs of pneumonia, due to an embolism in the lungs. All symptoms disappear again in a few days. We may safely wait for two or three of these attacks to pass in order to exclude other sources of sudden rise of temperature, as for example the bowels. But we must take careful note of each of these attacks, they are danger signals. They have the great advantage that they indicate a thrombophlebitis of the sinus as well as of the bulb of the jugular vein. The difficult differentiation between the two must be left to the operator.

The intracranial complications, extradural abscess, meningitis and abscess of the brain have some important symptoms in common, namely, headache and sleeplessness, often preceding the serious symptoms, stiffness of the neck, unconsciousness, clonic and tonic convulsions, Kernig's sign, etc., for days or weeks, even months. We have to depend more on the subjective symptoms, as the objective ones are so variable and unreliable. The patient usually distinguishes very accurately between earache and headache. In an extradural abscess the pain is localized more over the affected side of the head, in the temple or in the occiput. In meningitis of the base, the pain extends all over the head. All the other symptoms are very unreliable. The pulse may be slow, the temperature may be high, but the opposite may just as well occur; in one word, there is little to be depended on outside of headache, sleeplessness and, though later in the course, stiffness of the neck in turning the head from side to side or in putting the chin to the chest. In abscess of the brain there are often focal symptoms, but anybody who would act according to the sentence "no focal symptoms, no abscess of the brain," would not diagnose many of them, and would overlook just those that have the best prognosis and give the best results at the operation. It is a well-known paradox that the brain abscess that shows the fewest symptoms gives the best prognosis, because such an abscess is located in a part of the brain that is not very important for vital functions. A discussion of the differentiation of the location of the abscess in the temporal lobe or in the cerebellum, etc., does not come within the scope of this paper. The

attention must, however, be drawn to the fact that all three intraeranian complications are observed much more frequently in connection with chronic suppurations than with acute; that they usually develop slowly and not without warnings of one kind or another, so that with ordinary watchfulness on the part of attendant and patient, they cannot easily be overlooked.

The prognosis of meningitis and of brain abscess after operation have considerably improved in the last ten or fifteen years, and the prognosis of extradural abscess was always good when the patient was operated on. We have, therefore, headaches and sleeplessness as a most regular sign of nascent complications in the skull cavity.

The complication which is the easiest to diagnose is the Bezold's mastoiditis, so-called after Professor Bezold, who was the first to carefully study it. It only occurs in adults, and is caused by a perforation of the pus through the floor of the temporal bone inside the mastoid process, therefore inside the sternomastoid muscle, into the loose connective tissue of the neck. By gravitation the pus may either descend along the vertebral column into the posterior mediastinum or follow the muscle into the anterior mediastinum. Bezold's mastoiditis is not at all rare, and I have seen cases where it caused the death of the patient within two or three days after its onset. There is one treacherous feature connected with it. While the pus is enclosed under pressure in the cells of the mastoid process, especially in the cells in the floor of the temporal bone, the patient suffers great pain. This pain ceases the moment the perforation into the neck takes place and the swelling on the side of the neck appears. The patient will therefore often refuse operation, saying, "Why operate, I have no more pain and that swelling on the neck will disappear." But he has to admit that he feels much more sick than before. Repeatedly I have lost several days of valuable time with arguments. The sudden or gradual appearance of a broad swelling on the side of the neck, just below the mastoid process, must therefore be accepted as a danger signal which requires immediate action, although it may be combined with a temporary relief from pain.

In closing, I wish to remind you that, according to large statistics of post mortems, one out of every two hundred deaths is caused by complications of suppuration of the middle ear. During the ages from 10 to 30, the proportion is even greater, four to five out of every one hundred deaths. Does not that suggest that many of these cases go without being recognized? The

surgical methods of treating these affections are well worked out and the results are fairly good, provided the disease is not too far advanced. If only the thought of the possibility of a complication is kept in mind, we will remember that sudden loss of hearing with dizziness and, maybe, nystagmus, sudden attacks of high fever and chills, constant headache and sleeplessness, swelling on the side of the neck cannot belong to the clinical picture of a simple inflammation of the middle ear.

We begin to recognize more and more that the symptomatology of the complications of the suppurations of the middle ear, which was advanced by otology of ten and fifteen years ago, was mostly the symptomatology of the *late* or *even final stages* of these complications. In endeavoring to study the *early* symptoms, the intimate relation between the function of the labyrinth and some functions of the brain become so apparent that to-day the programs of many meetings of otological societies look more like the programs of a society of brain-surgeons or of neurologists. Surgery of the brain, neurology and otology have gained thereby. But it is evident that I cannot enter into a discussion of these latest works, because, first, it would lead me too far, and secondly, because most of the conclusions are not yet final.

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INTERMITTENT CLAUDICATION, NECESSITATING AMPUTA- TION (A REPORT OF TWO CASES)*

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My interest in the study of this subject was attracted by the following two cases that have come under my observation.

CASE 1.—Mr. A. R., aged 42 years, saloonkeeper, born in Austrian Poland, Jewish. Family history negative. Personal history, married; has four living children in good health; a fifth child died in infancy; wife never miscarried and in good health. No previous illness of any kind; denies venereal infection. His previous occupation that of clothes presser, at which work he devoted extra long hours and constantly on his feet. Habits: he drank very moderately up to about 1902 and since that time total abstainer; has always been a heavy cigarette smoker.

Present trouble started in his right hip in 1902, following a holdup in his saloon, when a man was killed. This tragedy scared him greatly and he was

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quite nervous for a time. He observed after this occurrence that on walking a certain number of blocks, he at first noticed numbness in his right leg, which was shortly followed by severe pain in the right hip, compelling him to stop for a short rest, after which, the pain and numb feeling would disappear only to recur when walking another short distance. As time went on, the pain gradually came on oftener. He was able to walk a much shorter distance and the symptoms extended to the leg and finally the foot and toes. The distance he could now cover was getting less each time and his resting had to be prolonged. He ultimately was even unable to stand on his limb, so severe was his pain which he described as being of a burning character.

He consulted many prominent internists among whom were also some well-known neurologists, who treated him by massage, electricity and the administration of drugs, both internally and externally. When he saw that instead of getting better, he was getting worse, he tried home remedies, one of which was leeches, without any abatement of symptoms whatsoever. The pain was getting unbearable and the extreme suffering reduced the patient to a mere shadow.

I saw this patient for the first time in the fall of 1903, about one and a half years after the appearance of his first symptoms. He had been in bed at that time about three months. The pain now was almost constant. He had practically not slept for about three or four months, with the exception of short naps. From these short naps he would awake with a sudden jump, sit up and cry bitterly from pain. He would keep up this pitiful crying until he would fall asleep, for a short time, from exhaustion.

Examination.—Entire limb smaller in circumference than the opposite one and quite flabby; skin dry and muscles atrophic; the foot darker than the opposite and its tendons stood out more prominently. The pain was more pronounced in the foot and toes than in the leg, although the lower part of the leg, a little above the ankle, was also very painful. In the last named area anteriorly, over the tibial ridge, a superficial wound of the skin about the size of a nickel could be seen, which he claimed to have been caused by the leeches that were applied to that spot. This wound resisted all attempts of treatment.

I advised him to go to the hospital for observation, where Dr. Jacob Frank examined the case with me. His condition was found as above described and on further examination the temperature was normal, pulse 100, arteries sclerotic, heart, lungs, blood and urine negative, reflexes normal, Argyll Robertson and Romberg symptoms absent, sensation normal, no rectum or bladder disturbance.

To connect the patient's symptoms with vascular changes was at that time not thought of as the many cases that one sees with marked arteriosclerosis present no such symptomatology; consequently, the first probable diagnosis was that of neuritis affecting the nerves of the leg. It was decided to cut down on the anterior and posterior tibial nerves and do a nerve stretching operation. This was done. The operation was accompanied with very little bleeding and the wound healed promptly by first intention. The symptoms after this operation were greatly aggravated, growing from bad to worse. The pain became unbearable. Iodids and mercury were tried without any benefit. We finally had to resort to hypodermics of morphia for the relief of the pain.

The scant amount of bleeding encountered during the nerve-stretching operation made us conclude that the primary cause of the trouble was a circulatory disturbance with a distinct underlying pathology and a clinical picture not understood, owing to our unfamiliarity with the subject under consideration. Prof. Nicholas Senn was called in consultation who pronounced the case as a syphilitic meso- and end-arteritis. There was an absence of pulsation from the popliteal down. He advised immediate amputation above the knee, even though no gangrene as yet existed.

In February, 1904, I assisted Dr. Frank in the operation, consisting of an amputation through the lower third of the femur. No constrictor was used as the bleeding amounted to very little, being almost of a general oozing. Healing took place by first intention. The pain disappeared and no more morphia was needed. After about four months, patient began to walk with an artificial limb and continued to take iodids in the form of iodonucleoid tablets, 5 to 10 grains three times a day, off and on. He was gradually able to attend to his business, free from any pain and very happy.

In 1909, about seven years from the time his first trouble in the right hip commenced, he noticed when walking a few blocks, he had to stop and rest on account of pain in the left hip. This pain was gradually getting worse, extending down the entire limb. He also complained of numbness and weakness and the pain was of a burning character. I advised him to keep off his feet. This advice he followed for a few weeks which resulted in sufficient benefit to allow himself a resumption of business.

In March, 1911, I was again called in to see him when he complained that his foot more than the rest of his limb began to annoy him considerably. The pain was getting to be very much worse. He was now again compelled to stay off his feet and stay in bed. From now on he followed this advice periodically.

In October, 1911, when I was called once more to see him, I noticed that his big and first toes were at times dead like, and at other times the color was a good deal better, showing more life. The skin on the dorsum of the foot to the extent of about one inch in diameter was necrotic and ulcerated. The pain at this time was almost constant and he did not care any more to leave his bed. Morphia had to be freely administered by mouth until 16 grains daily were consumed. The big toe finally showed signs of dry gangrene as did also the first toe. These gangrenous areas were extremely painful, especially when even lightly touched. In addition to the internal administration of morphia, a 4 per cent. cocaine solution was applied locally to the gangrenous areas to relieve the pain. The entire foot was gradually getting swollen and engorged. The diagnosis this time, of course, was clear cut. The amputation was delayed as long as it was possible, to give other arteries and their branches a chance to compensate and also allow the muscular system of the extremity to get accustomed to the smaller demand on the scant circulation. The pulsation in this leg was not only absent the same as was the case on the right side, but even the femoral artery as far as the femoral ring was hardly perceptible. However, from previous observation with an inosculatory circulation, a better understanding of the pathology, the law of compensation, and a more thorough familiarity with the literature of the subject.

amputation below the knee at the upper third of the leg was advised.

In February, 1912, I performed the amputation through the upper third of the leg. No tourniquet was used, the bleeding was not more than a general oozing. The skin was sutured and drained with gutta-percha tissue. The anterior-skin flap for about half an inch from the edge became gangrenous, which was undoubtedly due to a little tightness of the skin; this could not be helped, owing to the necessary economy. The depth of the wound was also slightly infected and a small portion of the bone seemed to be uncovered, owing very likely to a small slough in the periosteum. I waited for the gangrenous piece of skin to become separated, when I laid the wound open, removed about one-third of an inch more of the bone, packed the wound with iodoform gauze and allowed healing by granulation.

About June, 1912, the patient commenced to walk with both artificial limbs. He is now attending to his business, is not taking any drugs and feels quite happy.

CASE 2.—Mr. N. S., aged 27 years, born of Polish-Jewish parentage. Family history negative. Personal history: had scarlet fever when 10 years old, otherwise has never been sick. Married three years ago, has one healthy girl 14 months old; his wife never miscarried. Denies venereal history.

During the summer of 1907 he was troubled with his left foot in walking. When walking for any distance he noticed a feeling of numbness, and he had to stop and rest for a few minutes before he could go on. He consulted Dr. Reeves of Dallas, Texas, who pronounced it a case of weak feet. He said the arch was breaking down and suggested that patient get a brace for the inside of his shoe. In the early part of January, 1908, patient noticed an open sore between the second and third toes, when he consulted Dr. Aronson of Dallas, who pronounced it an ulcer and treated it for about three weeks. He happened at the same time to go to a chiropodist to have a corn cut and on the latter's assurance that he had cured lots of similar cases, allowed him to treat the sore foot for about two weeks. On February 28 the patient returned to Dr. Reeves who treated it again for a few weeks and no healing took place, patient suffering all the time. He was now sent by Dr. Reeves to Dr. Shilmire, a skin specialist, who after keeping him under observation for a week, referred him back to Dr. Reeves as a surgical case. On April 1 Dr. Reeves cut and scraped the wound, which hardly bled. A few days later the upper part of the foot became inflamed and the inflammation began to spread. A consultation was held by Dr. Reeves and Dr. Baird and both agreed that the trouble was due to a lack of circulation. They spoke of the possibility of having to amputate the foot, when patient decided to come to Chicago. He was seen by Dr. J. Frank and myself at the Columbus Hospital, April 11, 1908.

Examination.—He was poorly nourished, greatly emaciated, pupils contracted, tongue moist, suffered a great deal of pain in the left foot where an ugly sore could be seen, involving the plantar part of the phalangometatarsal articulations of the second and third toes; a great deal of necrotic tissue involving the deeper structure existed. Anterior part of foot was inflamed upward for about two inches from the wound, which was extremely tender. The entire left

limb was smaller than the right, the muscles atrophic. The left foot was livid and colder than the right. Heart and lungs negative, temperature 100.4 F., pulse 110. Urinalysis negative with the exception of a few granular casts which disappeared later. Blood-count negative.

He was put to bed on a nourishing diet and hot moist occlusive dressing applied to entire foot twice daily. April 13, 1908, the second and third toes were amputated. No Esmarch was used. There was almost a complete absence of bleeding. The wound was left open and packed very lightly with moist gauze and a large moist dressing applied and changed twice daily. The patient suffered a great deal of pain particularly at night which necessitated the use of morphia; this he had already been getting before coming to Chicago.

May 1, 1908, another general examination was made. We found that the patient had a general arteriosclerosis and general adenopathy. No evidence of a primary infection. We concluded that the cause of his local condition is very likely due—in spite of his denial of any venereal infection—to tertiary syphilis causing vascular changes and that the pain is due to local circulatory disturbance and is not of nerve origin as one would likely be led to interpret severe neuralgic pain with trophic changes. Hence the case was diagnosed as syphilitic arteritis. We immediately instituted heroic antisyphilitic treatment, such as mercurial inunctions daily and saturated solution of potassium iodid, 15 drops three times a day after meals, well diluted, increasing 2 drops daily. The inunctions were changed to gluteal injections of 0.2 grains bichlorid of mercury and the potassium iodid to iodolbin, 5 grains three times daily, increasing it to 10 grains. Later the gluteal injections had to be stopped on account of the emaciated condition of the patient and the inunctions again instituted. There was no attempt at healing of the wound and the pain was excruciating. The anterior and posterior tibial pulses in the region of the calf could hardly be felt. The posterior tibial below the malleolus and the dorsalis pedis pulse could not be felt at all.

Owing to the above findings, amputation above the knee was advised. The family demanded a consultation. Drs. Murphy and Andrews were called, who agreed with our diagnosis, advising the continuation of the antisyphilitic treatment for two weeks longer and if no improvement, amputation below the knee at the upper third. No improvement followed after this trial with the exception of a possible diminution in the size of the glands.

June 2, 1908, we amputated the leg at the upper third. No constrictor was used; the bleeding was of a general oozing. The only vessel that spurted a very small stream was the posterior tibial; this was ligated. The bone was covered with periosteum and muscle by means of catgut sutures, the skin flap approximated with silkworm gut and the lateral angles of the wound drained with gutta-percha tissue. The wound healed by primary union with the exception of a small area over the tibial ridge that would not heal, owing to the sloughing of the periosteum over that place. We finally decided that some more of the tibia will have to be removed, including the inflamed portion of the skin.

June 16, 1908, 1.25 inch of the bone was sawed off and the inflamed skin removed. The bleeding this time was more profuse, although no spurting from any arterial trunk could be seen. The stump was

covered by periosteum, the wound partly closed by muscle and skin, the rest treated as an open wound, which healed nicely by healthy granulations in five weeks.

The patient is doing nicely with his newly acquired limb.

Dr. Maximilian Herzog prepared the following histopathologic report of the amputated leg:

The vascular changes found are very profound and characteristic. In the large arterial branches are seen endo-, meso- and periarteritic changes. We find a subendothelial infiltration with round cells, the same infiltration in the muscularis and also in the adventitia. In the larger arteries examined, these changes are of a still moderate degree, but in the smaller arteries we find a completely obliterating endarteritis. The same inflammatory changes are found in the veins; there likewise we encounter endoperiphlebitis and mesoperiphlebitis.

The completely obliterating cellular infiltrations are very frequently seen in small veins. All of these vascular changes are continued into the vessels which supply the nerve trunks. It is a most striking picture to see how the nutritive vessels of the nerve trunks are obliterated and compressed by inflammatory infiltrations. These can be seen in the vessels supplying the epineurium as well as the perineurium. The perivascular foci seen in the interior of the nerve trunks are composed exclusively of mononuclear cells; polynuclear leukocytes are not present. A considerable proportion of the inflammatory cells are basophilic plasma cells; and among these, here and there, a plasma-mast cell with its coarse basophilic granulations.

The nerve fibers show likewise a profound change, namely, marked degeneration of the myelin of the medullary sheath. The myelin is nodular, foamy and completely missing to a considerable extent. However, the axis cylinders do not show any marked changes; they still appear to be quite normal. The muscles supplied by these nerves and vessels are still in a very good condition, the striation is quite distinct, but there appears to be quite a few nuclei between the endomysium of the individual fibers. These are evidently the nuclei of small round connective tissue cells and they probably indicate a beginning of interstitial myositis. There is also noticeable a moderate amount of fatty infiltration of the muscles. The silvered sections show no spirochetæ nor can any ordinary bacteria be demonstrated.

In this case two Wassermann showed negative reaction. No Wassermann was made in Case 1.

The disease has been variously named by different authors, viz., arterial anesthesia; intermittent claudication; painful ischemia due to an arterial obliteration of syphilitic origin; dysphasia intermittens angiosclerotica. The latter name was suggested by Erb, and covers the pathologic and clinical picture better than any of the foregoing.

It is only a comparatively short time that the disease under discussion had become better known to clinicians, although it is still being overlooked and treated as formerly for various conditions, such as neuralgia, neuritis, rheuma-

tism, vasomotor neurosis, spinal disease, flat-foot, etc. A case here and there and occasionally a thorough presentation of the subject appear in the literature.

The reason I think such diversity of diagnosis existed is probably due to the fact that such a long time elapses between one cardinal feature of the clinical picture and another. The first being a long period of suffering, such as pain and various paresthesias; the other gangrene, the final and only objective manifestation of the pathologic condition and which is usually taken for an entirely separate disease. Each of these two clinical pictures probably come under observation of different clinicians who fail to connect one with the other, thinking each to have a distinct clinical entity with a separate underlying pathology and etiology. This is the only reason I can think of why such a comparatively few number of cases are reported in the literature and the majority by nerve specialists, amongst whom Erb reports the largest number. A few are reported by the surgeon who is the last to appear on the scene of action.

The disease resembles intermittent limping of horses, described by Bouley, a French veterinary surgeon, in 1831. This author was the first to study on the living dumb animal the clinical picture of the condition. He also studied by dissections the pathology and found an adherent thrombus obliterating the main arterial trunk of the hind legs. His observations were corroborated by other veterinary surgeons who have also found aneurisms of the aorta associated with the condition. Bouley was the first to name the disease "intermittent claudication," caused by a narrowing and obliteration of the vascular lumen, depriving the limb of blood-supply. He pointed out that the alleviation or absence of symptoms during rest was due to the fact that the collateral supply furnished enough blood for the little demand entailed at that time, and that during action when muscles are more in use, the demand on the blood-supply is greater, hence the pronounced symptoms.

In 1858, Charcot was the first to describe the condition of a patient under his observation in whom he found on post-mortem an arteriovenous aneurism of the external iliac artery and vein resulting in thrombosis and obliteration of the vessels of the extremity. Since then Erb, Goldflam, Buerger, Adler, Webber, Gould, Klotz, Bramwell, Moskowitz, Katz and others have extensively added to the literature of the subject.

Intermittent claudication is an advanced localized arteriosclerosis, usually of the lower extrem-

ities. The arteries supplying the affected limb become gradually obliterated or greatly narrowed, either as a result of inflammation, thrombosis or aneurisms and give rise to symptoms resembling angina pectoris, which condition is nothing more than intermittent claudication of the heart first suggested by Charcot and is the result of similar pathologic changes.

The disease occurs more often in persons from 30 to 50 years of age, notably common among natives of Russia and Poland, principally amongst the Jewish people. It is thought by some observers to be of syphilitic origin, by others to the excessive use of alcohol, tobacco, exposure to cold, etc. Erb found heavy cigarette consumers in a large percentage of his cases.

The symptoms are characterized by numbness, formication, sensation of heat and cold and other paresthesias; weakness of the muscles, pain of a burning character and lameness. The symptoms disappear or are milder when patient rests or keeps off his feet and reappear when walking is resumed. The toes are often pale or dead-like—sometimes blue, swollen and congested. The posterior tibial and dorsalis pedis pulses are weak or absent. Sometimes the popliteal and even in some cases, the femoral are very weak or cannot be felt. Sooner or later, an ulcer appears on one toe or along the surface of the foot and assumes a progressive or gangrenous character; a considerable part of the foot may be involved. The age of the patient, the severe pain, the disappearance of the early symptoms during rest and the reappearance when muscles are in use, should suffice for a diagnosis.

When a diagnosis of intermittent claudication is established, extra precaution should be advised in preventing any injury or infection, no matter how trivial, in order to prevent fatal inflammatory stasis and necrosis.

When gangrene finally begins, which is always in the farthest peripheral areas, such as toes, the question of amputation presents itself. When and where to amputate then becomes a serious question. With many the general practice has been to wait for demarcation, unless a rapidly progressive gangrene caused by a simultaneous ascending thrombosis of the arteries takes place when immediate high amputation usually above the knee is advisable. Other operators advise amputation in the upper third of the leg; others prefer the Gritti for anatomic reasons; others again report cases in which amputation of the foot, even as low as Chopart's, Pirogoff's and Lisfranc's lines, have been performed without sloughing of the flaps. Wide differences of opin-

ion evidently prevail among operators of the present day. Low amputations are successful when the arteries are obstructed at a still lower point; they are followed by gangrene when the artery is blocked higher up. It is purely accidental when the operator happens to have cases with low arterial occlusion, so that his low amputations are successful, whereas others with the same procedure, are obliged to resort to secondary and repeated amputations. What is needed in practice is some means of recognizing the viable parts which are still within the zone of active circulation. Hemorrhage from the stump at the point of section is usually regarded as a guide to the proper level of amputation, but this is fallacious. In many stumps in which the main artery does not bleed (as in my case and in Dollinger's cases), healing was perfect.

Moskowitz has recently suggested his "hyperemia test," which he claims to be very reliable, and which we ought to try on our next cases. Moskowitz's test is applied as follows: The affected limb is elevated long enough to obtain a marked pallor of the skin, then a circular broad elastic bandage is applied around the thigh as high up as possible. The constrictor is allowed to remain in place for about five minutes. When the constrictor is removed, the usual hyperemic blush spreads over the limb, even though marked sclerosis be present. The hyperemic blush, however, is much less active as the ischemic areas of the foot or leg are approached. The red color spreads downward hesitatingly, almost imperceptibly, especially at the toes. Individual anemic patches persist for a long time, and the contrast between the red and the pale areas, however, become marked in proportion with the extent of the arterial obstruction. It is evident that any operation within the pale zone will end in sloughing of the flaps. Moskowitz made numerous experimental and clinical tests with this method. He shows very satisfactorily that the viability of the deep parts corresponds very closely with the living red skin areas, and that the surgeon may amputate with safety anywhere within the line of pink or hyperemic skin. In this way conservative operations are favored and there is less guess work or accident in determining the proper level of amputation.

In summarizing, the following are my conclusions:

1. That it is a disease of adult life, more common in men than women. The Jewish people of Russia and Poland, according to Erb, seem to have a special predilection for the disease.

2. That it is invariably due to an endo-, meso- and periarteritis, the result of either syphilis, alcohol, exposure to cold, tobacco, occupation—throwing a great deal of work on parts affected—aneurism, thrombosis or several causes combined.

3. The disease may be very chronic, slowly progressive, or may run a much more rapid course.

4. The ischemia varies in degree with the extent of the vascular obstruction and the efficiency of nature's means of compensation.

5. The pain is caused by nerve starvation or nerve hunger.

6. If gangrene results, it varies in type according to the amount of venous obstruction associated with the arterial obstruction.

7. Fever is only present when the disease is active, that is, when gangrene and ulceration are present.

8. According to competent observers, the disease may become arrested and the symptoms gradually pass away as the unaffected vessels become efficient substitutes for those that have been occluded.

9. It is my conviction that practically all these cases finally result in gangrene, necessitating amputation.

10. The reason more cases are reported by the internist, especially the neurologist, than by the surgeon to whom they really ultimately belong, is probably due to the fact that when the cases come under the surgeon's care, the patients have gone the rounds from the specialist in internal medicine down to the quack, and by the time the surgeon sees them, the case is so clearly surgical and so anxiously waiting for relief, that instead of analyzing and properly classifying the disease, the surgeon is content to give the patient relief by amputation for plain gangrene of the foot, the result of some vascular conditions, whose true etiology no one, I think, really knows.

11. In these cases, more than any other, the disease should be followed from beginning to the end and properly classified; and I am convinced that if done so, it will be found that the final disposition of nearly all cases will be by amputation.

12. As to the question of the time for amputation, I would say that within about three months from the time the pulse of the affected part has been absent or as soon as any gangrenous areas appear, is the proper time. This, however, is only a suggestion and is still an open question.

13. In deciding the level of amputation, the "hyperemia test" of Moskiewicz is worthy of consideration.

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MITRAL STENOSIS COMPLICATING PREGNANCY *

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It is not my purpose in presenting this paper to enter into a general discussion or consideration of the various heart diseases as affected by pregnancy, but to call your attention to the importance of routine examination of the heart in those who may become mothers and throughout the puerperium; to report two cases of mitral stenosis with their histories during pregnancy and labor, on account of the preponderance of mitral stenosis in females in the ratio of about 4 to 1 given by some authors, and since a pure stenosis is considered next to aortic regurgitation, the most serious of any of the heart lesions, and complicating pregnancy the most grave. As stated by Babcock, even uncomplicated and apparently well-compensated mitral stenosis offers an exceedingly grave prognosis.

The highest average age of these patients, given by Samways of Guys Hospital, reached by both sexes, is 38.33 years. Fair compensation of the lesion may be maintained for years, during which symptoms are absent, only to make their presence in the pregnant woman at the most critical time.

Etiology.—In mitral stenosis there is a narrowing or constriction of the mitral orifice, as named by Corrigan. "the button-hole contraction." The orifice in extreme cases is funnel-shaped. Consequently, the passage of the blood from the left auricle to the left ventricle is impeded. An acute endocarditis during attack of rheumatism, chorea, scarlet fever or any of the infectious diseases of childhood may be the pri-

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mary cause, but such a history is not always to be obtained. Accompanying mitral stenosis with or without complications, there is usually some mitral insufficiency. There may be great thickening of the valves and calcareous deposits, or the valves may be thin and elongated, projecting into the ventricle.

The pure form of mitral stenosis which we find so much more frequently in women, and so commonly see in young girls and young women, as stated by Dieulafoy, is independent of rheumatism and of other causes that usually produce endocarditis, and is sometimes associated with chlorosis. Trissier has stated that fibrous endocarditis, which in tubercular patients goes on to mitral stenosis, is not due to a bacillary infection, but to a tuberculosis intoxication. This may be present in hereditary cases of tuberculosis. Potain found at autopsy, in fifty cases of mitral stenosis, nine who had pulmonary tuberculosis. As stated by several authors and as mentioned in one of my cases, these lesions may cause such slight functional troubles that it may remain latent for years. But this does not lessen the gravity of the disease nor give the patient any assurance that he may remain free from the serious complications of pulmonary infarcts, cerebral embolism with hemiplegia, aphasia and cerebral softening, or sudden death from a ball thrombus forming in the left auricle and plugging the stenosed mitral valve. Hare mentions one case of this kind and Osler two, which were found on post-mortem. In Hare's case there was in addition hemiplegia and gangrene of both lower extremities, caused by emboli being carried into the greater circulation.

The venous stasis favors formation of clots in the right auricle, fragments of which cause pulmonary infarcts, also in the left auricle causing formation of clot, producing cerebral embolism or gangrene of the extremities. Excessive fatigue, worry and pregnancy have a deplorable effect on this form of cardiac lesion. Peter's aphorism relative to women with cardiac diseases in general is particularly applicable in mitral stenosis: "Daughters, no marriage; wives, no pregnancy; mothers, no nursing."

Symptoms.—The disease may show itself by slight symptoms only such as dyspnea, malcolar edema and palpitation; or there may be slight attacks of bronchitis, which gradually acquire a chronic form, or with failing compensation acute pulmonary edema on exertion, causing cough, hemoptysis or frothy blood in the sputum. As a rule, breathlessness on exertion is an early symptom, while in all other respects compensa-

tion seems good. The more severe symptoms or complications with loss of compensation are orthopnea, hepatic troubles, oliguria, anasarca and arrhythmia.

The first case I wish to mention is that of Mrs. C., aged 31 years. Family history: Father died at 38 of pulmonary tuberculosis, mother died at 42 of tuberculosis of the bowels, one brother living, aged 28 years; was in delicate health and moved to the Northwest; health is now good. Two sisters, one died in infancy, one living at 38 with two healthy children.

Personal history: When 8 years old had scarlet fever, and about one year after measles, both of moderate severity, with no complications that the patient remembered. Has always enjoyed good health. Height, 5 feet 9 inches; weight, 160 pounds. First menstruated at the age of 12, and afterward regularly. Had one miscarriage at three months, which followed a period of social excitement, no other cause known. She again became pregnant about three months later, and was examined after the second missed menstrual period. This examination was July 10, 1910, at which time the heart, lungs, pelvis and urine were negative, except the usual signs of pregnancy, at this period. The usual routine urine examinations during the pregnancy did not show albumin. Nor was there any evidence of heart murmurs or insufficiency disclosed at these examinations.

About two weeks before the expected time of labor patient was sent to the hospital on account of false labor pain. After being in the hospital a few days she insisted on returning home until there was positive evidence of labor. April 22, five days after expected time, patient noticed swelling of labia, and was seen by me later in the day. Found patient sitting up in bed, on account of difficulty in breathing. She was immediately sent to the hospital and nurse called. A catheterized specimen of urine was examined and no albumin found.

The general appearance of the patient and symptoms, including scanty urine secreted, pointed to an acute nephritis which had developed in the past twenty-four hours. There being no albumin or sugar, the heart was suspected. The pulse was about 120, slightly arrhythmic, soft and compressible and of small volume. The left heart dullness extended slightly to left of mid-clavicular line and apex beat slightly to left. Above and near the base a thrill could be felt, which proved to be pre-systolic in time. Absolute cardiac dullness of right heart extended beyond the right external margin of the sternum.

Auscultation revealed a pre-systolic murmur which corresponded in time to the thrill mentioned above. The patient spoke of a previous leukorrhea which made its appearance simultaneously with the other symptoms. This is a very early sign mentioned by Babcock in pregnancy with incompetency accompanying mitral stenosis.

There were beginning signs of tricuspid insufficiency, venous engorgement with cyanosis of the lips and finger tips. Orders were given that the patient be kept absolutely quiet and tincture digitalis m. x every four hours with calomel was prescribed. Warm boric acid packs were applied to the labia. Patient was found more comfortable the next morning, pulse not so rapid, but still great distress in breathing.

The nurse's notes stated that the difficult breathing continued throughout the day. Rochelle salts were given, followed later by an enema, which produced several free watery bowel movements. Patient was given a back rest on account of breathing. Because of patient's excitement and discomfort during the evening, morphin, gr. $\frac{1}{8}$, with atropin, 1/150, was given hypodermically.

Labor began later in the night, or on the morning of the 24th. The pain became more severe during the afternoon, at which time the patient's symptoms were all greatly exaggerated. The appearance of the patient was indeed alarming. Pulse 130, very soft and arrhythmic, breathing about 80 per minute. A low-pitched systolic murmur could be heard loudest over the lower part of the sternum, extending upward to the right. There was a very marked pulsation of the veins of the neck, synchronous with the apex beat, more noticed on the right side; in fact, a pronounced flapping of the right jugular vein which could be observed some distance from the bed, and seemed to augment the discomfort and generally serious aspect of the patient. Everything was made ready for an instrumental delivery as early as possible. The first stage of labor having been completed, this was accomplished, and a boy baby weighing ten pounds was born about eighteen hours after the first labor pain, and about five or six hours of moderately severe labor.

After the delivery the pulse was 140, breathing still rapid, and cyanosis marked. Strychnia, gr. 1/40, was now given hypodermically, and a laceration of the first degree quickly repaired. Patient was now returned to room, heat was applied, and saline given per rectum. A temperature developed the fifth day, lasting about ten days, reaching a maximum of 101, which I attributed to the exposure from the husband's hand in supporting the labia, and the leukorrhea which predisposed to an infection.

The various symptoms gradually abated with the continued administration of the digitalis, and when the patient left the hospital after four weeks all symptoms of loss of compensation had subsided, except some shortness of breath, and the presystolic murmur could no longer be heard.

Against my advice the patient again became pregnant, and about the seventh month, on account of shortness of breathing, was placed in bed for three weeks. She was sent to the hospital three weeks before expected time, and when a week later breathing became disturbed with return of the presystolic murmur, labor was induced by gauze packing and the patient delivered at the earliest possible moment with forceps. The patient had a return of all the old symptoms following the confinement, but milder in character. Our knowledge of the former trouble prevented the serious aspects and grave complications that confronted us in the former pregnancy and labor. I examined the patient a few days ago. There was no thrill or murmur present, but the patient complained some of breathlessness on going upstairs, and blueness of the lips is no-

ticed when too active. Both of these children are alive and healthy.

The second case I wish to report illustrates another grave complication that may occur in mitral stenosis:

Mrs. S., aged about 40 years, was referred to me by her physician from another town. There was no former history of complications or difficulty in labor, and she was the mother of four children. Five days after her confinement, while conversing with her children, she suddenly showed symptoms of difficulty in speech and became aphasic. The physician was called, and as the symptoms did not improve she was brought to the hospital and placed under my care. Urine examination was negative. She had only partially regained her speech and had a right side facial paralysis. There was also slight paralysis of right arm, noticed in strength and retarded motion. Patient was carefully examined as to the possible cause of paralysis. Not until after repeated examinations did I find a pre-systolic murmur, which I had not previously noticed, but which had been considered on account of the character of the pulse. The murmur was more noticeable by lowering the patient's shoulder and head over the side of the bed. She was able to nurse the baby, made a good recovery with the use of digitalis, and when she left the hospital the murmur was still present.

CONCLUSIONS

1. The importance of the routine examination of the heart in those who may become mothers and throughout the puerperium.

2. In cases where there is breathlessness, maleolar edema, softness of the pulse, in the absence of diastolic or presystolic murmur, the physician should be on his guard, the patient forbidden exercise, massage instituted, the proteids cut down and the bowels kept active to prevent venous engorgement.

3. When mitral stenosis exists with pregnancy, the patient should be placed under the most careful observation, and when rest and digitalis do not arrest the early symptoms of lost compensation, labor should be induced and the pregnancy terminated.

4. A patient with these conditions should be placed in a maternity hospital where possible, that the second stage of labor may be terminated with forceps or Caesarean section instituted where there is failing heart or in primiparas.

5. Importance of early diagnosis in order to prevent some of the grave complications mentioned in this paper, or loss of compensation and death.

DISCUSSION

Dr. Sumner M. Miller, Peoria: This is exceedingly interesting and also a very rare case. I can only second what Dr. Munson has said in regard to a careful routine examination of all cases during the first months of pregnancy, which examination I believe

should be repeated again about three weeks before labor. It has been my practice to subject the patient to complete and thorough examination within three weeks' time of the expected labor. It occurs to me, however, that there is a distinct hazard in such cases to subject a patient to a long and tedious labor of eighteen hours. In a patient with a rapid and weak pulse and rapid respiration, and in such a serious condition, we would much fear for the outcome, and it occurred to me while the author of the paper was speaking that with its increasing range of application a cesarean section—an operation of less than thirty minutes—with a light gas anesthesia, would be less hazardous in such a case than long, arduous labor and a more serious operation, such as high forceps.

CONCERNING THE WASSERMANN TEST *

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In a paper which I read before this society a little over a year ago, I mentioned some of the factors which govern the action of the complement. I said then, and I wish to repeat it again, that the different substances entering into the Wassermann test, even if they could be prepared in an absolutely pure state, and even if the reaction were absolutely specific, do not bear any strikingly quantitative relationship to each other, because the complement is not a simple chemical substance whose action could be explained by a side-chain theory.

The complement is a ferment whose activity is governed principally by its own relative concentration, and to a lesser degree only by its quantitative relationship to the substance to be destroyed, to the substance which is the cause of its deviation. In order to give you a practical demonstration of the above, I have prepared a series of tests made from the same normal negative blood. Beginning from the left and going to the right, to every successive tube has been added one more drop of physiologic salt solution. Otherwise everything is exactly the same in all the tubes. You see how the reaction changes from a strictly negative on the extreme left to a strongly positive on the extreme right. Now it is at once clear that this apparent difference in the reaction cannot be caused by a fixation or a binding of the complement. There is not any more cause for a binding of the complement in the most positive of these tests than there is in the most negative. The reason, then, for the

above-shown difference in the reaction lies in the fact that the complement, like any other ferment, acts according to its concentration and not according to its absolute amount present. In our supposed positive test the complement is too much diluted to be able to do effective work, but it is still free and ready to act, provided we bring it back to a suitable concentration. Under any given condition, therefore, a certain definite amount of complement has to be present in a mixture before any apparent reaction, as shown by a laking of the blood-corpuscles, is taking place.

Now the relative quantity of the complement which is thus apparently prevented from taking part in the reaction is directly proportional to the dilution of the mixture, and the accuracy with which we are enabled to measure the actual fixation, the using up of a complement in an antigen antibody mixture is directly proportional to the percentage of complement present.

Wassermann believed the complement to be a chemical substance, constituting a quantitative integral part of the reaction, and formulated the technic of his test accordingly. It is, therefore, not surprising to find that this test is not based in a rational way on the laws governing the action of the ferment, the complement, and that a few changes will render it more sensitive, more accurate and perhaps somewhat more simple to perform. As complement acts according to its concentration and rapidly loses its power to act, if diluted, all the parts entering the reaction should be used in their concentrated form. Thus, the patient's serum should be used undiluted. The antigen, the complement and the amboceptor should be standardized and used in their concentrated form. The washed blood-corpuscles should be used in 25 to 50 per cent. suspension, instead of a 5 per cent. suspension.

The serum-antigen-complement mixture should be incubated for one hour, as directed by Wassermann, but after the addition of the sensitized blood-corpuscles it should not be left in the incubator for any rigidly determined length of time. On the contrary, as soon as the negative controls have completely hemolyzed, all the tests are removed from the incubator and at once diluted with physiologic salt solution. This will in all the tubes at once stop any further action on the part of the complement. The time necessary to completely hemolyze the negative controls should not be less than thirty and not much in excess of sixty minutes. The physiologic salt solution used for checking hemolysis

* Read before the Chicago Medical Society, March 26, 1913.

acts more promptly if it contains a little more than 0.85 per cent. of salt.

The tests can now either be put in the ice-box for the rest of the twenty-four hours, or they can be centrifuged and read off at once.

I have used the above-described modified technic for the last three years and have found it to give very constant comparative results, which cannot be equaled by tests made according to the original technic.

As to the deductions to be drawn from the results of a Wassermann test made according to a rational technic, we must remember that the syphilitic infection is mainly, and contrary to the general belief, a local infection only. It resembles especially in its later stages a metastatic affection, such as carcinoma. If syphilis were a truly constitutional disease, the Wassermann reaction would preeminently be a simple specific reaction, whose results could easily be controlled and critically examined as to their clinical value. But syphilis produces very few, if any, constitutional symptoms. Even the symmetry of the specific lesions as we find them at the height of the secondary stage is to be explained as the result of the abundance of the spirochetes which have invaded every part of the human body rather than as the result of any constitutional reaction.

The slow-staged, drawn-out clinical course of this affection can only be caused by a germ of mild toxicity and slow growth. The syphilitic disease products are evidently but mildly toxic or poisonous. They neither force the human body to institute acute defensive measures, nor do they stimulate the human body as a whole to make any concentrated effort at the elimination. In spite of all the talk and all the writing about the syphilitic antibodies, it has not been proven as yet that the syphilitic affection does give rise to any such body. But just for the sake of argument, let us take it for granted that such a body is produced. How will we then explain the clinical course of this disease? An effective antibody is incompatible, is unthinkable, with a disease lasting for generations. The syphilitic inflammations are from the beginning to the end of the infection of a chronic productive type. The more we perfect our technic of finding the spirochetes, the more evident it is that syphilitic lesions are always dependent on the immediate presence of the germ. The human system tolerates apparently a larger amount of syphilitic disease products than it does of any other disease. The complement must be considered in the light of a blood-ferment whose purpose it is

to aid in the destruction of disease products. It can, therefore, easily be seen that the complement will be used up in much larger amounts in a serum taken from a case of active syphilis than in a serum taken from patients affected with diseases which produce more poisonous products, because the products of the latter diseases must of necessity be destroyed and excreted more promptly. They cannot be allowed to accumulate without immediate danger to the patient's life.

We come, then, to the conclusion that the Wassermann test is not a specific reaction for syphilis, but it will naturally, for reasons mentioned above, on account of the mildness of the invader, show up stronger here than in any other disease. But every disease that causes the appearance of disease products in the blood of the patient will for the time being also give some degree of Wassermann reaction.

Experiments which I have been making in connection with my daily serologic work force me to the conclusion that this test is, furthermore, mainly a group reaction, a non-specific group reaction, and that it is in exceptional cases only that we will be permitted to exclude any of the factors aiding in the shaping of the final results of this reaction.

In order to be more explicit, I shall mention one factor of the group, namely, the native anti-sheep "amboceptor." We can exclude this factor, if we want, from influencing the final result of the test by using an antihuman instead of an anti-sheep hemolytic system. A number of investigators are advocating such a change of the indicator.

Now I have shown in a previous paper that the amount of native anti-sheep amboceptor varies in different individuals, according to their surroundings, and in the same individual according to his general state of health. Syphilis as well as other diseases that depress the state of health for any length of time depresses the amount of native amboceptor. By using an antihuman hemolytic system as an indicator, we eliminate, therefore, a symptom that may occur in other diseases, but at the same time exclude a symptom that does occur in syphilis. The substitution, therefore, of an antihuman indicator for an anti-sheep indicator deprives the test of a good deal of its sensitiveness.

Comparative work with these two hemolytic indicators convinces me that the exclusion of the anti-sheep amboceptor is in exceptional cases only desirable and helpful in arriving at a valuable clinical result.

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AUGUST, 1913

Editorials

TUBERCULOSIS SANATORIA

On another page will be found an article on the question of tuberculosis sanatoria, together with the new law governing the building and maintenance of municipal tuberculosis sanatoria in the various cities of the state.

During the last few years the medical profession has made a very strong effort toward the eradication of tuberculosis. The problem is a large one, and, like other large problems, requires time and concentrated effort.

The Illinois law, as now amended and as printed in this issue, is one of the best of which we know in this country. It gives power to municipalities to build and maintain tuberculosis sanatoria for its tubercular patients. Society demands that the state do this, and thus, in some measure, reduce the number of new cases that appear annually, spreading the dread infection to still others.

In Chicago this work is being carried out in a considerable measure. We hope and we believe that soon Chicago will have ample accommodation for its tubercular patients. This cannot be said of the entire state.

It will now become the duty of the medical profession as a whole, and the individual doctor as a citizen, to urge on the various municipalities the necessity of proper places for the care of its tubercular patients. In many, and I may say most, of the cities and smaller communities of Illinois, as well as of other states, the tubercular patients have no special attention given them, as regards sanatorium facilities.

When these tubercular patients become destitute, as many of them do, they are treated as paupers in the county poor house until they die. This we all know is not in the interest of society, nor is it in the interest of humanity, nor is it in the interest of the doctor.

These municipal sanatoria should be built and maintained, and the doctors should be paid for their service in taking care of these unfortunate victims of this malady.

The doctors of Illinois should read this law, and then demand of their county that suitable sanatoria should be maintained for the care of these tubercular patients and for the safety of its citizens.

MENTAL ABNORMALITIES RESULTING FROM ERRONEOUS EDUCATIONAL METHODS

These are certainly "eugenic" days, with the emphasis placed on hereditary influences as causative factors of various insanities as well as physical defects in the offspring. While this emphasis is quite proper, it must not blind us to the fact that many mental abnormalities would never be evidenced were it not for the faulty educational methods in the school and home. While hysterical individuals, like poets, are born and not made, it is equally true that if the "tantrums" in early life were always met sharply, promptly and vigorously, there would be fewer individuals in later life suffering from a stigmata of profound hysteria.

Dementia praecox is as clearly due to tainted heredity as any insanity, and yet if the early evidences of headstrongness on the part of the child were made subjugate to the stern realities of rational law in home and school, this trait would not become paramount in the affected individual. Good educational methods at home and school supply a wide view and a far-sightedness to the child that in time leads him unconsciously to accept the reasons given by others as proper motives for his own actions or refraining from action. Proper training begets self-control. Suitable school and home influences would

prevent the development of the "martyr spirit" with which so many young people enter on life work. Educational methods will not eradicate inherited taint, and while it remains incumbent on the child to "select good parents to be born from," yet we can readily see that proper methods in school and home education will prevent many of the incipient hereditary mental abnormalities from becoming manifest in later life. Kid-glove leniency might well at times give place to the rough edges of stern law in the training of children and youth.

CLEANSING AND DRESSING OF ACCIDENTAL WOUNDS

Every hospital surgeon knows that the first aid, i. e., cleansing and dressing of accidental wounds, has undergone a decided revolution during the past few years. This fact does not seem to us to have reached the attention of the occasional surgeon or general practitioner who, from circumstances, is forced to treat these cases frequently.

In the past, the treatment of all compound wounds, lacerations, crushing injuries, etc., whether accompanied by injury of deeper structures or not, consisted in too vigorous use of the brush, together with extensive probing into and investigation of the structures below the surface. Quite accidentally, it was discovered that when these cases did not reach the thorough surgeon they got on surprisingly well. It was noticed that when little or no cleansing was done the wounds very often healed without suppuration. The thinking surgeon quickly sized up the situation and took a new tack. Instead of regarding all these cases as primarily infected, he took the view that they were by the efforts at cleansing often, too often, secondarily infected. Consequently he modified his former methods considerably, and with happy results.

Recently, in conversation with a surgeon in charge of one of the large steel plants, where nearly all the surgery is confined to the treatment of compound accidental wounds, the writer was informed that not more than 20 per cent. were infected or suppured. In fact, it was stated that, in the opinion of the surgeon, 20 per cent. was much more than now occurred under the modern treatment of such cases.

How, some will ask, is this improved condition of affairs brought about? This can be but briefly answered here.

First, let us speak, for example, of a compound fracture of a long bone. The limb should be

carefully shoved away from, and without disturbing, the wound. Then, while saturated boric acid solution or 1 to 3,000 bichlorid of mercury solution is allowed to flow over the wound and exposed bone, all gross dirt is removed, and foreign matter (such as clothing, etc.) picked from the injured tissues with sterile forceps. The fingers, gloved or ungloved, should never be employed where a sterile, steel instrument can be used. With a scissors, all dirt-begrimed, lacerated edges or disorganized tissue tags should be clipped off. After thoroughly drying the parts with sterile or antiseptic gauze, the limb, and even the wound, should receive a liberal application of tincture of iodine. A sterile, or better still, an abundant 5 per cent. carbolyzed gauze dressing, should be applied. Over this, sufficient absorbent cotton and bandages or splints, as indicated, are placed. After this the rules and indications for redressing should be strictly observed and aseptically or antiseptically carried out.

The same principles as those given above may be observed in other compound wounds with slight modifications, depending on the nature and location of the wound.

Some wounds will admit of partial suture, especially if gaping widely. Interrupted sutures should be used and tied only tight enough to approximate, and not strangle the tissues, as is likely to occur if swelling is great afterward. Horse-hair, because of its great elasticity, is a very desirable suture in these cases, if great tensile strength is not required. Few accidental wounds, excepting very superficial ones or when located about the face, can be entirely closed by suture. These should be watched and a suture removed and drainage instituted, if it is seen infection has occurred.

Wounds about the hands and feet should, as a rule, be left open and dressed dry with a loose dressing, so that the air may penetrate, because of the danger of tetanus bacillus infection in these localities.

Danger of infection of this nature is greater if the wound is made by implements lying about the farm yards and such places known to favor tetanus bacillus growth. The "Fourth of July" pistol and other toys used in the alley and back-yard are notorious propagators of this form of infection.

After such injuries, prophylactic doses of antitetanic serum should be administered.

Slaughter-house wounds also are noted for the virulence of their infection, and it is the opinion of the writer that early prophylactic doses of antistreptococcus vaccine or mixed infection vac-

cine, would greatly modify the seriousness of such cases.

These infections are mentioned to remind physicians of the fact that, besides the cleansing of the wound, as given above, any life-saving prophylactic measures or specific treatment known to be of definite value should be administered *at once*, because, in order to be of any value, they must be given *early*, and should be part of the emergency treatment.

It will be difficult for some to refrain from the use of the brush and soap in cleansing the dirt- and grease-begrimed hands of machinists when wounded. It was once thought that such material must contain much infection. Now, we know it is comparatively harmless. A combination of benzine and iodine with a soft sponge is safer and much better than the soap and brush for removing this, if one must use something.

The brush is now recognized as a dangerous factor in the cleansing of accidental wounds and is fast disappearing in the preparation of the field in all deliberate surgical procedures.

CANDY MEDICATION

Curare cito, tuto et jucunde—to cure quickly, safely and pleasantly—has ever been the aim of the disciples of Hippocrates. Our friends, the homeopaths, owe whatever success has been theirs to placing the word “jucunde” first; at least, so it seems to us. Now thanks to the publication by Dr. Bernard Fantus of his “Candy Medication Formulary” in *The Journal of the National Association of Retail Druggists*, May 22 and 29 and June 12 and 19, we are able to meet the “little sugar pill doctor” on his own ground. We can indeed outdo him by giving pleasantly flavored and nice colored sweet tablets instead of his plain sugar pills, administering at the same time active remedies instead of infinitesimal dilutions.

No doubt, all of us engaged in practice among children have wished at times to be able to give to children medicine in such form that they would enjoy taking it instead of abhorring it. As the author puts it in an earlier publication on the same subject (*Jour. A. M. A.*, Sept. 14, 1912), “When one witnesses the struggling of the average child against the average medicine, one cannot but wonder whether at times the struggle does not do more harm than the medicine can do good, and wish that we had other means of administering medicines to children.”

The “formulary” represents the result of a research to determine to what extent medicine

could be given to children in form of sweet tablets, similar, e. g., to the popular sweet phenolphthalein tablets. The list includes a surprisingly large number of medicaments, giving one a fairly well-stocked armamentarium. We find in it: acetphenetidin, acetylamidosalol (salophen), aconitin, adalin, anesthesin, antimony and potassium tartrate, antipyrin, apomorphin, aristochin, arsenic trioxid, atropin, bismuth, caffen, charcoal, cerium oxalate, chalk, cocain, digitalin, digitoxin, elaterin, diuretin, emetin, lactic acid ferment, iron, nitroglycerin, heroin, hexamethylenamin, calomel and several other mercurial preparations, hyoscin, magnesia, morphin, pepsin, phenolphthalein, pilocarpin, podophyllin, sabromin, sajodin, saloquinin, santonin, sodium bicarbonate, strophanthin, sulphonal, sulphur, tannalbin, terpin hydrate, thyroid.

The dose of the medicament incorporated in these tablets has been calculated for a child three years of age. Detailed working formulae are given, so that a pharmacist equipped with an inexpensive tablet machine can put up these tablets extemporaneously on physicians prescription. It seems that here is an important contribution that deserves the attention of the medical world. It now remains for physicians to encourage pharmacists to equip themselves with the necessary apparatus, and we will be able to give children nearly all medicine in “candy form.”

OUR ADVERTISERS

We should like to call attention of the readers of *THE JOURNAL* to *THE JOURNAL*'s advertisers. The only income of *THE JOURNAL* is the income from the advertising carried. This at present is not nearly enough to maintain *THE JOURNAL*, consequently the society goes down into the society's pocket and pays.

The advertising should pay *THE JOURNAL*'s expenses. Business men will gladly advertise if they get returns. Naturally, they will not advertise if they do not get returns. Most things doctors buy can be had in many places and at about the same price in each place. As the advertiser pays much of the expense of this *JOURNAL*, is it not fair that the members of the society—that is, the readers of this *JOURNAL*, patronize the man or firm who patronizes *THE JOURNAL*—reciprocity? The man who pays for the “ad” in *THE JOURNAL* is patronizing you. Furthermore, it is well to tell your dealer why you are patronizing him.

The large circulation of the ILLINOIS MEDICAL JOURNAL, and the fact that it is the official organ of the State Society, should make it the best advertising medium in this state. All of our advertisers are, we think, and so far as we can learn, reliable — selling the goods as they are advertised.

It is right that every member of the Society should, in buying goods, if possible, buy from THE JOURNAL'S advertisers.

PRINTERS' STYLE

The question is often asked by contributors to publications why their manuscripts are changed in spelling and otherwise. If the spelling is erratic the answer is, of course, easy. Every manuscript passes through the hands of several persons, copy readers, printers and proof readers; and is also under general editorial supervision. A lack of "printers' style," meaning rules for securing uniformity, thus leads to inextricable confusion. A case in point occurs in this JOURNAL. Thus in the "Illinois Law" on page 98, the spelling "Sanitarium" follows the style of the law and in the article by Dr. Sachs—referring to this specific law—the same spelling prevails. In the editorial on the general subject of institutions of this character and in the article by Dr. Miller—also in general terms—it is spelled "Sanatorium," with Latin plural "Sanatoria," just as "data" is used as the plural of "datum."

There is general agreement among the lexicographers that sanatorium is the preferred form of the word as applied to institutions for the treatment of chronic diseases, especially tuberculosis. Thus the Oxford English Dictionary, Murray, 1909, defines sanatorium "An establishment for the reception and medical treatment of invalids; in recent use chiefly either of convalescent patients, or of consumptives undergoing the open-air treatment."

The Century Dictionary, 1911, dismisses the word "sanitarium" as an *improper* form of "sanatorium."

Further, as bearing on the meaning of the allied words, the New International Dictionary, Webster, 1910, says, under Synonyms: "Sanatory and sanitary should not be confounded. *Sanatory* signifies *conducive to health*. *Sanitary* has the more general meaning of *pertaining to health*, as, a camp is not *sanatory*; its *sanitary* conditions are bad."

Correspondence

IS THE DOCTOR'S REASONING CORRECT?

The following letter was received by the Public Relations Committee in reply to a letter sent out by them soliciting membership in the Society.

The letter is written by a general practitioner in active practice, who was formerly a member of the Society, and who has been thinking along economic lines as relating to the medical profession.

The letter is full of truth, and we may say that this is only one of many letters written in a similar vein.

We publish the letter, and recommend that the profession read and digest its contents.

CHICAGO, July 8, 1913.

To Public Relations Committee,
Chicago Medical Society,
Chicago, Ill.

Gentlemen:—I received your communication and read it carefully. All the facts therein recorded and that you want me to realize are too well known to me. Every word in it is an undisputable truth. What surprises me is that the profession is just now awakening to the fact that their very bread is being taken away from their mouths, and, what is worse, that the members of the profession themselves are the ones who are encouraging it with our so-called philanthropic ways.

I have been a member of the Society for some years past, but could not see the advantage of it. The Society did absolutely nothing, to my knowledge, to curb the practice of medicine by illegal practitioners who are practicing medicine in this city. Nurses, midwives, druggists and other numerous "professors" are constantly and uninterruptedly competing in the practice of medicine, but so far nothing is being done to stop it. In your communication you mention the disregard—I may almost say contempt—in which the legal profession holds us. Why shouldn't they? A profession like ours that eagerly and anxiously gives its services gratis to whomsoever asks for it, does not deserve better treatment. Any member of the legal fraternity who gives his services to city, county or state, demands and gets more than a fair value for services rendered. The physician is the only one who is eager to serve unremunerated. Take the County Hospital as an illustration. This institution takes it for granted that the best our profession can give is not too

good for it—gratis. More than this. Our best men are eager to undergo civil service examinations to give away their valuable services, which are readily accepted without thanks. People outside of our profession, lawyers included, cannot conceive that a thing that's given away freely is worth anything, and that those who give it are worthy of any respect. Why not demand good pay for valuable services rendered? And if the communities object to the demand, why, let them apply to the osteopaths, "Christian Scientists," natural healers, and the rest of the humbugs, which they so lovingly cherish, and let them attend to these public institutions for a time and see the results. Such a practical demonstration would do more good than all the legislators and politicians and "city fathers," and even medical societies could accomplish. Why not try it instead of arguing the point with those who don't want to understand. Why, I ask, should we not take care of our interests as other business men or business corporations are taking care of their interests? Why complain, when you are the very ones who elevated the nursing trade to almost a profession and which profession is now competing with us in the open market? After you leaders of the profession had dragged us down to the dignity—or rather indignity—of a street laborer, are you now appealing for help? I had given up membership in the society with regrets, seeing that I have to compete with colleagues who are only too anxious to serve for the glory of it. If it is the glory only that you are seeking, why, live on it and don't complain. I shall want material remuneration for services rendered.

I am voicing the opinion of reputable members of our profession, but who are outside of the Society. Why, *The Journal of the American Medical Association* would ignore a communication of this nature. I tried it once some years ago. If the only good in me is my five dollars and not my opinions, I shall keep it, it is hard to get. Why not let the whole world know that we are philanthropists who need the money to live on and raise a family as other people do, and then, and then only, shall we get what's coming to us and justly so.

Fraternally.

BERTHOLD WEISENBURG, M.D.

1200 W. Madison St.

NOTE.—We fail to see how the doctor is going to help remedy these evils by remaining outside of the Society. He should renew his Society affiliation and thus be in position to assist in organized effort to bring about the changes he desires.

ANOTHER DISSATISFIED DOCTOR

SPRINGFIELD, ILL., July 22, 1913.

Legislative Committee.

Illinois State Medical Society.

Gentlemen:—Your circular letter of June 27 was received this morning, being sent to me probably through an oversight, as the secretary of the Sangamon County Society would doubtless have informed you (had you inquired) that I had long ago been adjudged unworthy of membership in that organization, both on transfer and direct application. This being the case, it would be entirely useless for me to fill out the blank you enclosed, but permit me to assure you, I am fully alive to the evils to which the letter alludes, and am fully as apprehensive of their ultimate effects on the profession as the language of your letter indicates you are.

If every member of the profession *here* were to receive a like letter, and profited by it, am sure that there would be no laparotomies for twenty-five or fifty dollars, no scaling of regular fees for corporation and liability practice, no bickering for lodge practice, and no unseemly scramble among the younger practitioners for the pauper work which sometimes nets them as little as *thirty* cents per call. All of the foregoing practices being common among the *organized* profession which unfortunately does not seem to be able to discover these unprofessional activities in its own ranks.

Personally, I am for any legitimate, organized action that will keep the profession where it belongs, not mere wage earners, but a body of careful scientific men, receiving more than a mere pittance, but never as much as their services are really worth, since their true worth to *humanity* cannot be estimated too highly.

In conclusion, should I perchance at some future date become a member of the local society, I should be pleased to send you an application blank filled out in due form, and at any rate, can assure you that my sympathies and activities are all for the betterment of the profession.

Yours truly,

THERON J. KINNEAR, M.D.

WHO'S WHO IN DELEGATES

OFFICE OF CHICAGO MEDICAL SOCIETY
31 W. LAKE STREET.

CHICAGO, July 14, 1913.

To the Editor:—In the issue of *THE JOURNAL* just received, I notice on page 79 a paragraph relative to the delegates to the International Con-

gress of Medicine to be held in London, Aug. 6, 1913. This notice states that the officers of the Chicago Medical Society submitted the following names to President Wilson for appointment as delegates: Drs. Wm. L. Baum, John B. Murphy, M. L. Harris, A. E. Halstead, Arthur R. Edwards, Charles H. Kahlke, M. F. Grinstead of Cairo, J. L. Wiggins, East St. Louis; Albert L. Britton, Athens; J. E. Allaben, Rockford; R. W. McInnes, Belvidere and George N. Kreider, Springfield.

There is evidently some mistake regarding this matter as the officers of the Chicago Medical Society did not submit the above names, but did submit the following names: Drs. John A. Robison, Wm. L. Noble, Charles P. Caldwell, Harold N. Moyer, John B. Murphy, Frederick Tice, Alfred C. Cotton and Carl Wagner.

The first list was presented to the President by Senator J. H. Lewis without any action being taken by the Chicago Medical Society, and the men on that list do not carry credentials as delegates from the Chicago Medical Society.

Very truly yours,

CHARLES H. PARKES,
Secretary.

DR. LINN, A PIONEER

CHRISTIAN COUNTY MEDICAL SOCIETY
OFFICE OF SECRETARY-TREASURER

To the Editor:—Some time ago I received a letter from Dr. Jennie Lyons, secretary of the Champaign County Medical Society, enclosing a clipping from some paper in which mention was made of a very old physician—Dr. James Lynn, of Oconee, Ill. In the clipping it was said that the doctor is 108 years old and that there were 108 friends and relatives present, etc. While this is not exactly true, I think the facts are sufficiently interesting and will give them as I have learned from my inquiry.

On receipt of Dr. Lyons' letter, I at once wrote to the doctors at Oconee and to Dr. J. H. Miller of Pana, and in a few days I got the following letter from Dr. L. C. Littlejohn of Oconee. I give you the letter as I received it:

DR. BARR, Taylorville: *Dear Doctor*—In regard to Dr. James Lynn: Old Dr. Kendall tells me that he is 102 years old, graduated in Cincinnati, Ohio, about 1840 at a physiomedical school, began practice at Hillsboro, Ill., has lived and practiced in Oconee, Shelby Co., Ill., since about 1850 to about fifteen years ago. He went on horseback with saddlebags and would be gone a week or more at a time. Made his own medicines from herbs, roots, etc. In his day he was one of the best in the state.

If you have time enough you could write to his son, Marshall Lynn of Herrick, Ill., and he could give

you an accurate account. I never saw the old doctor but a couple of times and that was about twenty years ago. Am sorry I cannot give you better information.

Respectfully,

L. C. LITTLEJOHN.

I at once wrote to Mr. Marshall Lynn as suggested by Dr. Littlejohn and received the following reply:

HERRICK, ILL., June 16, 1913.

Dr. D. D. Barr, Taylorville, Ill.

Dear Sir: In reply to your letter of June 11: Dr. W. T. Linn (notice the spelling) was the oldest of nine children and is the only one who now survives. His birthplace was in Guernsey county, Ohio, and the date May 28, 1815. (You see he is 98 instead of 108.) He was educated at Blendon and Gainesville colleges and the medical college at Cincinnati. For several years he taught school. The last school he taught was in Bond county, Illinois, sixty-eight years ago last winter. Father has been a physician for seventy-four years. He established the first drug stores in Hillsboro, Pana, Irving and Oconee. It was in 1844 that he came to Illinois.

In 1862 he enlisted in Co. F, 115th Ill. Volunteer Infantry as a private. He served almost three years, part of that time acting as hospital steward. He was afterward transferred to Detroit, Mich. It was there he was mustered out after serving more than a year in the medical director's office. Father is the father of twelve children, six of whom are living. The oldest, L. M. Linn of California, 76, and the youngest is 38.

When father was 17 years of age he was sent with a drove of cattle from Cincinnati to New York. He walked all the way both going and coming and received 50 cents a day for his labor.

Father has been living on one meal a day for the last fifteen years. If there is anything more you want to know write me and I will answer your questions.

Yours very truly,

MARSHALL B. LINN.

Taylorville, Ill., July 21, 1913.

D. D. BARR, M.D.

THE HOSPITAL *

ARTHUR M. CORWIN, A.M., M.D.
CHICAGO

In Ancient Rome a guest and host as well

Was *hospes*, *fragrant* word, from which we get
The modern terms hospice and hospital,

To which the stranger goes with welcome met,
And finds a refuge and a sure hotel

For maladies that all mankind beset.
"Hotel Dieu" in Paris by the Seine

Is witness eloquent of what we say,
The gods were mindful of our human pain
Of yore, and still indeed they are to-day.

* Dedicated to the new West Side Hospital, 1844 West Harrison Street, Chicago, June, 1913.

Four thousand years B. C. the seeds were sown
 Of hospitals and schools of medicine,
 As told in hoary records writ on stone
 By Egypt's drifting desert sands shut in.
 Then, all infirm and injured folk were laid
 For healing influence, divinely won,
 Beneath the sombre, kindly, cooling shade
 Of temples reared to Saturn, Coelus' son,
 Whose priests, more skilled in clinic art benign
 Than common men, with learning more occult,
 Bid ailing ones to come, their wills resign,
 And eke their gold, and for their griefs consult.

For ills acute, and accidents that cry
 Aloud for instant care, without delay,
 To hospitals the ambulance must fly;
 While chronic woes, of flesh and matter gray,
 And poverty that is to sickness nigh,
 Asylums seek, and wide prepared the way
 To house of alms, the home of charity.

"Hotel Dieu," God's house, shall long abide—
 We'll make the Gallic sentiment our own,
 Yet keep the label that we hold with pride,
 On this fair house of brick and steel and stone.
 For titles foreign-made we have no need,
 But heaven-born truth and sentiment are free
 To all mankind of various blood and creed,
 And shall be so to all eternity.

To compass health full many a means we seek
 Through herbs and minerals, and serums, too,
 Aseptic tools and foods and drinks unique,
 And lab'ratory test, specifics new;
 Empiric some, evolved by accident.
 And some from painful labors, shall endure,
 Of scientists who dared experiment,
 Lord Lister, Jenner, Roentgen, Koch,
 Pasteur,

But one compounded remedy we know,
 Though overlooked in therapeutic lore,—
 A cheerful doctor, interne, nurse, will go
 A long way toward effecting speedy cure
 In every case. As this they understand
 Our "powers that be" would promulgate this
 truth

Through all of us, to pass from hand to hand—
 Not this, "An eye for an eye and tooth for
 tooth";

But wholesome, hopeful, kindly sentiment
 Of each toward all, an attitude at length
 Of helpfulness, a wish with shoulders bent
 To lend another's load our virile strength.
 Of fitness for the staff this is the test
 Required of all, of doctor, interne, nurse.
 Of skill there's none too good, we want the best;
 But skill of head and hand will not 'imburse
 For lack of heart more dear than all the rest.

The doctor and the nurse with records fine,
 Upright and kind, well-versed in healing's art,
 In hospitals of most approved design
 And management—these are the chiefest part
 Of Æsculapian practice up to date.

A combination such as this we build,
 And, building thus, 'tis guaranteed by Fate
 That all our rooms with patients shall be filled.
 'Tis here that surgery of highest class
 And diagnostic acumen shall live,
 And specialists of noblest type shall mass
 Their effort and their best endeavor give.
 Our wards and private rooms, with sunshine filled
 And freshest air, shall breathe an atmosphere
 Of home. And food, prepared by those well
 skilled,

With cultured taste, shall add substantial cheer
 To all our guests; yea, more—in every room
 Fair optimism's smiling face and voice,
 Inspiring hope, shall drive away dull gloom
 And make each sober, heavy heart rejoice.

To sick men here we rear a monument—
 No shaft of granite, gray, or slab of white
 To mark the doleful spot where love's lament
 Is sung in requiem to gath'ring night.
 Memorial is this of nobler brand
 Than tombs, within which lifeless dust
 endures;

For to the living here its walls shall stand
 A monumental hall of famous cures.
 The sick man! Who more worthy of our song?
 In robust health, disdaining sympathy;
 When ill, with vital functions acting wrong,
 No infant more dependent than he.
 Squandered his revenue of mental power,
 Bankrupt in energy of body worse,
 His neurons weak, his disposition sour,
 His days a bore, his nights a living curse;
 What wonder that the victim of disease
 Should need some balm more practical than
 prayers

From racking pain to give him lasting ease;
 More potent, too, than patent drugs and
 wares

Of advertising quacks, and passes made
 By smooth magnetic fakes who fortunes tell
 From skiagraphs of pocketbooks, X-rayed,
 And guarantees to make their patients well?

But tho' such dangers make an easy prey
 Of mortals ruled by pathologic fear,
 A nobler God than Saturn guards their way,
 A kinder hand than Saturn's priest's is near.
 And so, the answer fair this need of men,
 The West Side Hospital we build anew,
 And fling its ample portals wide again,
 And fling abroad a welcome message, too.

THOSE TANTALIZING VACATION ADS.



By Courtesy of the Chicago Record-Herald. [Copyright, 1913, by Henry Barrett Chamberlin.]

Don't You Feel 'Em Pullin'

DEATH OF DR. H. A. TOMLINSON

At a meeting of Alienists and Neurologists, held under the auspices of the Chicago Medical Society, June 23-25, the following resolutions were adopted:

WHEREAS, By the death of our colleague, Dr. H. A. Tomlinson, of Wilmar, Minn., this Association has lost one of its most active, valued and honored members;

Resolved, That this Society deeply regrets Dr. Tomlinson's death; and

Resolved, That a copy of this resolution be spread on our minutes and published in the Illinois and Minnesota State Medical Journals.

THEODORE DILLER, Pittsburgh, Pa.

M. A. BAHR, Indianapolis, Ind.

CHAS. GORST, Mendota, Wis.

HENRY COTTON, Trenton, N. J.

M. E. WITTE, Clarinda, Ia.

G. M. HILL, Des Moines, Ia.

Society Proceedings

CHRISTIAN COUNTY

The meeting of the Christian County Medical Society, held in the Circuit Court room at Taylorville Thursday, July 17, was a very interesting meeting, although the number present was small. The weather was extremely hot, so that as the words of the speakers flowed from their mouths the sweat dripped from their chins. The meeting was called to order at 2 o'clock p. m. by the president, Dr. D. K. Cornell, and after the minutes of the previous meetings were read and approved Dr. Burkhardt of Effingham, our newly elected district councilor, took the floor and addressed the meeting, discussing such things as he considered best for the success of the society, and during his talk complimented the Christian County society as being one of the very best in his district. We are proud to hear this praise, as it was not merely compliment, but his estimate was made from the actual condition of the society as shown by the records.

Dr. Burkhardt's talk was interesting and we were much pleased to have him with us. As he talked offhand I cannot send you any report of his remarks further than above mentioned.

Dr. M. W. Snell of Litchfield was present and read a most excellent paper, and I shall send you a copy of it, as it surely merits publication. In this paper Dr. Snell discussed the "Milk Question" and presented it in a different way from most of the papers we read on the subject. One thing of local interest brought out in the discussion was in regard to the discovery of the diphtheria bacillus. While the credit of the discovery of this bacillus is justly accredited to others, it is interesting to know that as far back as 1866 our worthy president, Dr. D. K. Cornell, observed the diphtheria bacillus, but being in a small town in the country with no laboratory facilities he

did not get the credit of developing it and proving to the world that it was the cause of the disease.

Four new members were added to the list—one, however, having been in the society before—three by election and one by transfer. We now have almost every desirable person in the county on our roll.

At this meeting the question of more frequent meetings was discussed, and it was decided to hold our meetings monthly and to distribute them to different towns of the county, giving each a proportion according to its size as nearly as possible. The next meeting is to be held in Pana on the third Thursday in August.

D. D. BARR, Secretary-Treasurer.

COLES COUNTY

A meeting of the Coles County Medical Society was called to order by President Coultas at the Presbyterian Church, Charleston, July 1, 1913. Minutes were accepted as read. Dr. Ed Summers read a paper on "Pituitrin," which was discussed by Drs. Montgomery, Iknayan, Dudley, Freeman, and in closing by Dr. Summers.

Dr. Montgomery gave an address on "Typhoid Fever," advising typhoid vaccination as a preventive in patients between the ages of 15 and 45 years.

Dr. McDonald gave an excellent report of the state meeting. The following were present: Drs. Ed Summers, McDonald, Freeman, Coultas, Dudley, Craig, Montgomery, Iknayan, Trauseau and Bryan.

Adjourned.

T. A. BRYAN, Secretary.

PITUITRIN

ED SUMMERS, M.D., MATTOON

The pituitary gland has been, in the past, more or less of an unsolved problem to the anatomist. While various attempts have been made from time to time to explain its functions, it is only within recent years that a sufficient knowledge has been gained to enable a rational study of it to be made.

The gland is located at the base of the brain in the sella turcica of the sphenoid bone. It consists of two lobes, a large anterior lobe and a small posterior lobe or infundibular portion.

The large anterior lobe, or the epithelial or glandular portion, arises from the epithelium of the mouth. The smaller, or posterior portion, arises as an outgrowth of the floor of the third ventricle and consists largely of neuroglia. Between the two lobes, and extending over and into the posterior lobe is a "stalk" which connects the two lobes together.

The infundibulum connects the posterior lobe with the third ventricle. The anterior lobe is the outgrowth of the buccal cavity, whereas the thyroid gland is an outgrowth of the epithelial layer of the pharynx, an anatomical fact which was first noted in 1889, when it was found that the extirpation of the thyroid body was followed by hypertrophy of the pituitary body. At this time was also discovered the association of acromegaly with anatomical changes in the pituitary gland.

In 1895 came the discovery of its effect on the blood-pressure and the heart, and later the discovery that the active principles were generated in the posterior lobe of the gland. It was also found that total extirpation of the gland was followed by death, while

partial extirpation of certain portions of the gland was followed by certain characteristic changes in growth and development.

There was at first much confusion in the study of this gland, due perhaps to the facts of its dual nature. The anterior lobe arising from the epithelial layer of the buccal cavity, the posterior lobe coming from the floor of the third ventricle, proves that there is a difference in the character of the structure of the two lobes, and such dissimilarity is very marked in the extracts derived from each of the different lobes. When extracts are made from the whole gland, one lobe neutralizes the effect of the other.

An extract made from the anterior lobe caused the blood-pressure to fall to zero, and when the respiration and heart action ceased, it was restored to normal by the use of an extract of the posterior lobe. The portion of this gland, therefore, selected for therapeutic use is the posterior portion of the gland.

The commercial preparation of this portion of the gland now in use is "Pituitrin," which is an aqueous solution, sealed in ampoules, sterile and convenient for hypodermic use. Its most marked physiologic effect is its power to constrict unstriated muscle fiber, and as a diuretic.

The administration of pituitrin is followed by a very marked rise of blood-pressure. It also has the power to cause regular, strong contractions of the uterus.

There is considerable question as to whether its diuretic property is due to its action on the cells of the kidney, or whether it is due to the changes in the circulation.

In summarizing the observations of different experimenters the following conclusions are arrived at:

1. That the anterior lobe is essential to life, and its removal in a short time leads to death.
2. That the partial removal or disease of it leads to a condition of retarded growth, infantilism, obesity, or other disturbances of nutrition.
3. The hyperactivity of the anterior lobe leads to accelerated and abnormal growth (acromegaly).
4. The posterior lobe contains a substance having a marked effect on plain muscle, especially that of blood-vessels, kidneys and the uterus.

Knowing these characteristics of the gland and its extracts, the therapeutic value of the preparation is what concerns the practitioner the most.

Extracts of the posterior lobe (pituitrin) are used chiefly for their effects on plain muscle, especially that of the uterus and the blood-vessels. Several writers have advocated its use in a variety of conditions, some of which are as follows: To increase the blood-pressure following shock and various other of the infectious diseases, such as typhoid fever, claiming it has a permanent and lasting effect on blood-pressure.

Another writer (Wiggers) claims it is the only drug that meets the indication as a hemostatic in pulmonary hemorrhage, since it raises the blood-pressure from peripheral action and causes a weakening of the heart which prevents a rise of pressure in the pulmonary vessels.

Wray claims that in post-operative shock the improvement in the circulation may last twelve to fifteen hours. It would seem that the extract of the posterior lobe might prove useful in any condition where an increase in blood-pressure is desired.

The exception to its use would be in cases of high blood-pressure. No harmful results are noticed in its use except it be long continued, in which case sclerotic changes have occurred in the coronary vessels, pathologic changes in the kidney, or ulceration of the bowel.

Its diuretic effect is quite marked, but whether its diuretic effect is due to the increase of blood-pressure, or to its specific action on the cells of the kidney, is not known, but the latter is quite probable, as it has been noted that a "repeat" dose does not further effect blood-pressure, yet gives a decided diuretic action. Its action as a vesical stimulant is marked. Some observers claim it relieves a large per cent. of anuria or dysuria following labor or gynecologic operations.

Probably the most practical use of the extract is in obstetrical practice. Many recent writers are claiming very favorable results from its use in uterine atony and in post-partum and other forms of hemorrhage, and it has proved itself to have decided advantages over ergot.

That it is a powerful oxytocic agent there is no further doubt. It stimulates long-continued contractions that are normal in character. It has not the power to induce abortion and is not suitable for that purpose.

In the limited number of cases in which I have used it there was no unfavorable effect either on mother or child. It was in most cases followed by decided diuretic effects on the mother and in nearly every case the child urinated freely in a short time after birth. In no case was there any tendency to post-partum hemorrhage.

This preparation, in my opinion, should not be used indiscriminately or in a haphazard way if its best therapeutic results are expected.

I find it yielded its best results when there was partial or nearly complete dilatation, in which an atonic condition was present with irregular, feeble contractions, or perhaps an entire cessation of the pains. In such cases its administration was invariably followed in from fifteen to thirty minutes by strong, regular contractions which resulted in the termination of labor in a remarkably short time.

Much to my regret, I have not kept a tabulated record on all cases in which it was used, but I will cite one or two cases which serve as a fair example of results obtained in all cases used:

Mrs. B., aged 28 years; third child. I was hurriedly called five miles in country as membranes had ruptured; arrived one hour later and found patient sitting up, having feeble, intermittent pains. Examination showed os well dilated, head engaged; after a wait of an hour no increase in contractions; patient ordered to bed and pituitrin given. In fifteen minutes strong contractions began and in less than an hour the child was born.

Mrs. S., aged 25 years; fourth labor; had irregular pains for twelve hours with intermittent cessations which seemed probably to prove a false alarm; this condition prevailed throughout the day, until dilatation was nearly complete. At this time pituitrin was given; in a few minutes a hard contraction came on, and in thirty minutes the child was born.

The technic in using it is simple. The gluteal region is preferable and a fresh solution that has not turned pink should be used.

COOK COUNTY

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL
SOCIETY*Regular Meeting, Feb. 18, 1913*

(Abstract)

A regular meeting was held Feb. 18, 1913, at the Bismarck Restaurant at 8 p. m., with the president, Dr. J. Gordon Wilson, in the chair.

Dr. G. W. Boot demonstrated a case of injury of the occiput and mastoid due to a fall followed by dizziness and diplopia.

Dr. Norval H. Pierce exhibited specimens of adenoids and tonsils, an adenoma of the larynx and a nasal tumor.

Dr. S. C. Friedberg reported a case of pin-swallowing.

Drs. Joseph C. Beck, George E. Shambaugh, William L. Ballenger, J. Holinger, Alfred Lewy and J. R. Fletcher discussed the cases and specimens.

Dr. John A. Cavanaugh read an exhaustive paper on "Topography of the Tympanic Cavity." This paper was discussed by Drs. George E. Shambaugh, A. H. Andrews, George W. Boot, Joseph C. Beck, and in closing by Dr. Cavanaugh.

Dr. J. Holinger reported on the International Otolological Congress in Boston, 1912: (a) Oto-Sclerosis; (b) Discussion of the Demonstrations of Professors Urban Pritchard and Denker; (c) Heath's Paper.

This was discussed by Drs. J. Gordon Wilson, George W. Boot, George E. Shambaugh, Joseph C. Beck, and in closing by Dr. Holinger.

Dr. Otis H. MacLay exhibited specimens on which the following paper was based:

ODD CASES OF NASAL DEFLECTION WITH
SUGGESTION AS TO TREATMENT OF
NASAL ADHESIONS

OTIS H. MACLAY, B.S., M.D., CHICAGO

The ordinary operation is always found to be interesting and instructive, but the slight or extensive departures from the original line of work found necessary by exceptional cases is, I believe, even more interesting, owing, first to the original technic that must be developed, and, secondly, to the peculiar formations present. It is with the hope of satisfactorily describing some of the oddities found in nasal deflections and also the technic employed in correcting the same that I have ventured this article. I believe in about all of the very decided and very irregular angular deflections that trauma in some form or other is the etiologic factor, differing in this respect from those that are of a more regular curve, although these may be deflections of extreme degrees. As an aid in describing these irregularities, I shall first briefly mention the anatomy of the nasal septum and the relation to it of the perichondrium and periosteum.

The bony septum is composed in the main of the perpendicular plate of the ethmoid above, the vomer posterior and below, resting on the nasal crest of the superior maxilla, and the anterior portion of the superior maxillary crest, or the so-called incisor crest. This anterior extension of the vomer, the superior maxillary crest and incisor crest, by their blending, form the lower portion of the septum, and are commonly spoken of as the "ridge." Placed in the space

left by the articulations of the bony septum we find the triangular cartilage. The coverings of this cartilage and bone form separate envelopes for each part. The perichondrium of the triangular cartilage, as it approaches the ridge, passes under the cartilage to the opposite side of the septum, completely enclosing the cartilage. Similarly, the periosteum of the ridge passes over the bony crest to the other side of the septum, thus forming a complete envelope for the bone. These separate envelopes are closely united to each other at junction of cartilage and bone, and of course to the structures that they invest. This means with the ordinary deflection, which generally consists of cartilage and bone, that at least two separate envelopes must be opened before a complete removal of the deflection is possible. After having separated the necessary amount of perichondrium covering the triangular cartilage, and carrying the dissection to the covering of the bony ridge, we find we are unable to continue lower with blunt dissection without tearing the flap, since the area is reached where the perichondrium is turning under the cartilage and the periosteum over the ridge, going into the other side of the nose, and so at this point, the cartilage having been removed, it becomes necessary that the periosteum along the top of the ridge be incised, and dissected from the bone down to the nasal floor. The union now of the periosteal layer below with the perichondrial layer above gives a large flap, extending from the desired line above to the floor, and when held by a retractor pulling laterally gives the appearance of a tent lying on its side, with the retractor acting as the crossbar at the top. Within these large flaps the bone can be readily seen and removed, either with chisel or bone-biting forceps.

In order to demonstrate these points, I have dissected a few septums. By examining them you will be able to see the relations of the various parts of the nasal septum to each other. These specimens, however, are used merely to aid the description, since they are not in most instances sufficiently irregular to warrant operative interference. With one exception the flaps have been dissected, not as done in the operation, but in order to demonstrate most clearly the various structures present. In specimen 3 an anterior view is given of the incision used and the freed flaps as seen while operating, with the exception of the right anterior inferior portion, where a fairly firm union is left as the cartilage rests on the vomer. This shows how readily a tear could result if, without first freeing the flap at this point, the solid parts were removed. Specimen 4 shows a portion of the perpendicular plate of the ethmoid placed far forward, and extending downward to within one centimeter of the anterior extension of the vomer, completely overlapped, however, on the right side by the cartilage of the septum.

In some of the specimens that portion of the cartilage overlapping the vomer is shown. It is very essential, as you can see, that a piece of cartilage so located be removed before the bony covering can be freed. After its removal the covered vomer comes into view, and an incision is made through the periosteum, formerly covered by the overlapping cartilage, to the bone, and the dissection carried downward as far as desired.

Among the most common irregularities met are those where the cartilage is split, but lying in its own plane,

There may be several pieces of cartilage, each with its own envelope, and consequently each piece must be freed of its perichondrium before removal. Again, the cartilage may be so broken and the deflection so extreme that the septum presses against the outer wall of the nose with the split some distance posteriorly. A case with a vertical and horizontal deflection illustrates this. The extreme of deflection was vertically placed, about one inch inside the nose, but the bend extended horizontally the length of the cartilage. At the greatest point of deflection (vertical) the anterior piece of cartilage was found completely separated from the posterior portion, the latter part having its own envelope, which consequently was opened and bluntly freed. In this case the anterior piece of cartilage was first removed and then, having more room and clearer view, the posterior dissection was completed.

An irregularity that has required considerable care in my hands is one where the cartilage, extremely deflected, bends forward well into the opening of the nose. Here we have blending of skin and mucous membrane, with the mucous membrane very much thickened. We wish to keep our incision well inside the nose as an aid in healing, and also to prevent the pain felt by incising the skin. Consequently we place our incision as far inside as possible, and work the anterior covering of the deflection forward. This is sometimes quite difficult, owing to the thick fibrous tissue present. The muco-perichondrial covering of the concave side in these deflections is often extremely thin, owing to the constant removing of crusts that form in the hollow of the cavity. Under these conditions, if the convex flap is torn in its freeing, great care must be exercised on the concave side, or a perforation might result.

Ordinarily the cartilage and bone occupy about the same relative space in the septum, but we find in exceptional cases a decided variation in the proportion of the two, and also in the thickness of the structures. In one case with a deflection extending posteriorly to a point opposite the middle of the middle turbinate, I was surprised to find the entire deviation consisting of the triangular cartilage, which was also very much thickened, measuring at the posterior portion at least one-quarter inch in width. Another case demonstrating the irregularity in amount of bone and cartilage showed the septum having a small anterior portion of cartilage, extending backward for about one inch from the nasal opening, and the remaining portion of the septum being composed of perpendicular plate of ethmoid and vomer. This is the only one of my cases that has had the bone extending so far forward, although other cases have been reported.

In two cases, each having a moderate posterior deflection, but with a large, sharply-pointed spur on the deflection, which extended well over to the outer wall of the nose, I removed not only to give a better nasal condition, but because of the annoying tinnitus aurium present. The noise in the ears of both cases disappeared very shortly following the operation. Although appreciating the fact that there are many conditions producing such a disturbance, I mention this because of the result and not with the idea that tinnitus aurium is even likely to be benefited by such a simple remedy in all cases.

Among the various complications found in septum work is a union between the outer and inner walls of

the nose. This, when freed, results in two raw surfaces, with a tendency during the healing period of again uniting, since it is not uncommon to have considerable swelling for two or three days following the removal of the packing. In order to avoid such an unpleasant complication, I treat any denuded surfaces with 30 per cent. silver nitrate immediately after removing the gauze. This is rubbed over the area and leaving the albuminate of silver for a covering eliminates the raw surface and consequently prevents later adhesions. I have employed this solution for several years, not merely for the septal cases described, but have used it wherever I wished to prevent adhesions in the nose. The other methods, such as packing and the actual cautery, cause a decided reactionary swelling, and often the same condition recurs. With the actual cautery we have the reactionary swelling not only from the burning, but also from the congestion arising after the effect of the cocaine has disappeared. I have been much pleased with the results from the strong nitrate solution, and take this opportunity of describing its application.

After cocaineizing, break up the adhesion and then rub over the denuded area 30 per cent. silver nitrate, which is applied with cotton on the end of an applicator, care being taken not to have the cotton more than dampened with the solution, thus limiting its application to the region desired. This can be treated within two or three days again, but without cocaineizing, simply applying a small amount of the silver nitrate. At this time considerable slough will be present, but this should not be disturbed until it comes away without bleeding, thereby ensuring against a new raw surface. Should bleeding occur, however, apply solution to the area involved.

Another condition of the septum that is out of the ordinary is where the anterior end of the cartilage is dislocated to one side, and almost protrudes from the nose, with the remaining portion of the deflection (the larger part) extending into the opposite nostril; that is, a horizontal "S." I believe in this class of cases if the conditions are suitable that the best results are obtained if two incisions are used. First remove the extreme anterior deflection and, the incision being far forward, suture with fine silk. Then on the opposite side do an ordinary submucous dissection. This can be done if there is a sufficient amount of cartilage behind that first removed, which is not too greatly bent to the side of main deflection. As the bend of septum passes from the anterior piece which lies obliquely across the right opening, let us say, to the left, there is often a small piece of cartilage, one-quarter to one-half inch in length, that remains fairly well set in the median line. In the first operation remove cartilage to the anterior end of this medianly set portion and begin on the other side behind this same part, so that we have a large undisturbed portion of the cartilage of the septum left for support of the anterior end of the nose. This should prevent any later tendency of the tip from bending downward, due to cicatricial contraction of the anterior area operated on. As I have stated before, I have never seen this condition result, but believe the method just described a safe and conservative one. It gives a good result and saves tissue, and in all cases that should be our aim.

In one case the anterior inferior portion of the septum showed an old perforation from typhoid, about

the size of a dime, with a marked left-sided deflection extending posteriorly, involving both bone and cartilage. The incision was placed sufficiently behind the perforation so that the opening in the septum was surrounded by cartilage. This was done to insure a firm anterior attachment for the freed mucoperichondrium, preventing consequently any tendency of the membranous septum from flapping on blowing the nose. The greatest difficulty experienced in this case was due to the field of operation being set so far inside the nose, which necessitated considerable time in elevating the flaps, in order to keep the cartilage at the posterior portion of the perforation intact.

The cases described show to some extent the peculiarities met in this line of work, and also that they can be safely corrected and a good result obtained if sufficient care is exercised on the part of the operator.

15 East Washington Street.

CHICAGO MEDICAL SOCIETY — ENGLEWOOD BRANCH

The June meeting of the Englewood Branch was held on the evening of June 3 at the Englewood Hospital.

Mr. McMann of the Bureau United Medical Society gave an interesting fifteen minutes' talk on collections of doctors' bills, describing his new method.

Drs. W. H. Bohart, G. J. Hagens and D. H. Garen presented cases of fractures of the elbow joint, most of them having been treated by Jones' method of hyperflexion. The results were all that could be desired.

Dr. C. A. Stevens then read a paper on "Fractures About the Elbow Joint, with Special Reference to Childhood."

The discussion was opened by Dr. C. Langer, followed by Drs. Fuller, Rieble, Bacon, Gary, Morton, Mather, Lovewell, Sr., and others. Many good points and valuable suggestions were made.

Those who failed to come missed a lot of good, valuable and handy information. The attendance was seventy-one.

ARTHUR G. BOSLER, Secretary.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Regular Meeting, May 19, 1913

(Abstract.)

A regular meeting was held May 19, 1913, with the president, Dr. Willis O. Nance, in the chair.

Dr. Thomas Faith exhibited a case of glaucoma, recently trephined. This case was discussed by Drs. W. A. Fischer, Harry Gradle and, in closing, by Dr. Faith.

Dr. George F. Suker presented a patient from whom he had removed a growth involving the posterior group of ethmoid cells. This case was discussed by Dr. B. F. Andrews. Dr. George F. Keiper of Lafayette, Ind., made a further report on Perinaud's conjunctivitis. This was discussed by Drs. Harry Gradle and Thomas Faith.

Dr. H. W. Woodruff, Joliet, reported a case of infection following the extraction of cataract. This report was discussed by Drs. Meyer Labensohn and Harry Gradle, and in closing by Dr. Woodruff.

Dr. A. H. Andrews read a paper on "Malingering."

HAMILTON COUNTY

Annual Meeting, May 6, 1913

The annual meeting of the Hamilton County Medical Society was held at the office of Dr. M. C. Dale in McLeansboro, May 6, 1913.

The meeting was called to order by the president, and the minutes of the preceding meeting were read and approved.

Dr. W. W. Hall read an interesting and able paper on "Medical Ethics," bringing out many valuable thoughts and much discussion on this important subject.

The annual election resulted as follows: President, Dr. C. M. Lyon; first vice-president, Dr. M. C. Dale; second vice-president, Dr. C. W. Johnson; secretary and treasurer, Dr. I. M. Asbury; delegate to the state medical society, Dr. J. J. Hassett; alternate delegate, Dr. M. C. Dale; board of censors, Drs. P. M. Nation, J. A. Bozarth, J. J. Ellis. The session was harmonious, well attended and enthusiastic.

Regular Meeting, July 8, 1913

The meeting was called to order in Dr. Dale's office at 1 p. m.; present, Drs. I. M. Asbury, J. A. Bozarth, M. C. Dale, H. E. Hale, J. J. Hassett, E. S. Hall, W. W. Hall, C. W. Johnson, C. M. Lyon, C. O. Lane, P. M. Nation.

The minutes of the May 6 meeting were read and approved. The board of censors reported favorably on the application of Dr. H. O. Carlton of Macedonia, and he was elected to membership.

Dr. C. O. Lane of Belle Prairie read a paper on "Gall-Stones," and Dr. J. J. Hassett of this city read a paper on "Diphtheria." Both subjects were well handled by the authors, and freely discussed by the members.

I. M. ASBURY, Secretary.

JERSEY COUNTY

The Jersey County Medical Society met at the residence of Dr. C. W. Evans in Fieldon, June 10, with Dr. Van Horn, president, in the chair, and the following members present: Drs. Gledhill, Giers, Doyle, Bohannon, Bray and Cheney of Jerseyville, Park and Warner of Grafton, Evans and Brewster of Fieldon.

Dr. Doyle presented the subject of "Tonsillitis," which was discussed by all present. Next meeting in Grafton, August 12.

LAKE COUNTY

The summer meeting was held June 26 at Libertyville, partly in the bowling alley and partly in the restaurant. We first enjoyed a couple of hours of bowling, in which Fuller and Tombaugh took most of the honors, and Foley and Galloway displayed their true gambling instincts, betting recklessly on the result, the amount changing hands being conservatively estimated at between 20 and 30 cents.

Then we rested from our labors and listened to a very interesting talk on "Urethral Stricture," by Dr. L. W. Bremermann of Chicago. Some of his main points were:

About 98 per cent. of all strictures are dilatable and gradual dilatation is altogether safest and gives best results. Dilate with filiform and silk elastic bougies up to caliber of 14 F., then use steel sounds. Steel sounds below 14 F. have too sharp a point and

too much danger of making a false passage. Internal urethrotomy should never be done more than 4½ inches from the meatus on account of danger to artery of bulb and serious and possible fatal hemorrhage. Retention should be first treated by hot sitz baths and hot rectal injections if soft catheter cannot be introduced. If these measures fail to relieve, suprapubic puncture should be done with large size trocar and canula and 10 to 12 ounces of urine allowed to escape. Then after six or eight hours a similar quantity again withdrawn, and so bladder emptied by degrees. Never empty bladder at once after severe distention on account of causing severe congestion of entire urinary tract with resulting anuria or very serious hemorrhage.

The doctor's talk was interrupted by a call for physicians on account of a railroad wreck at Rockefeller and the entire society took autos and were soon at the scene of the accident, but found only two men suffering with contusions and abrasions.

We then returned to a restaurant and had an excellent supper, after which Dr. Bremermann finished his talk, and Dr. Taylor gave a very interesting report of the state meeting, both of the House of Delegates and the scientific sections. Fifteen members were at the supper.

The next meeting will be held in September, either at Wauconda or Round Lake.

W. C. BOUTON, Secretary.

M'HENRY COUNTY

The regular monthly meeting of the McHenry Medical Society was held in the City Hall at Woodstock, May 27, at 5:15 p. m. The meeting was opened by the president, Dr. J. I. Wernham of Marengo. A copy of the letter which the secretary was instructed to write to Congressman Copley, asking his support of the measures aiming to create a National Board or Department of Health, was read, and also his letter in reply, stating that he was in favor of the same and would be glad to support such measures.

The "Good Roads Resolutions" of the Chicago Medical Society were read; moved and carried that the McHenry County Medical Society adopt these resolutions as read.

In reference to the matter of filing death certificates, it was moved and carried that the secretary take it up with the various undertakers of the county and ask them to fill out all of the blanks, except the part relating to the cause of death, which is to be filled out by the attending physician; and for the undertaker to send the completed certificate to the State Board of Health at Springfield, and collect the usual fee of 25 cents from the treasurer of McHenry County.

The annual report of the secretary-treasurer was read and approved as read.

The following officers were unanimously elected for the ensuing year: President, Dr. H. D. Hull of Crystal Lake; vice-president, Dr. E. V. Anderson of Woodstock; for secretary-treasurer Dr. A. B. Smith of Woodstock was re-elected; Dr. C. F. Baccus of Woodstock was re-elected to the board of censors; as delegate, Dr. J. I. Wernham of Marengo was elected. With Dr. H. D. Hull as alternate.

An interesting paper was then read by Dr. W. J. Van Derslice of Chicago on "Some Points of General Interest in Infant Feeding." A lively and interest-

ing discussion followed. Others present at the meeting were Drs. Pillinger of Algonquin, Hull of Crystal Lake, J. I. Wernham of Marengo, Foster of Richmond, Brown of Hebron, Guy, Windmueller, West, Seelye, Smith, Anderson, Baccus and Francis of Woodstock.

The regular meeting for June was held in the Cottage Hospital, in Harvard, Ill., on June 25, at 5:30 p. m.

Dr. Allen B. Kanavel of Chicago gave us a most interesting talk on "Diagnosis of Surgical Diseases of the Upper Abdomen." Following the discussion of this he gave, on request of the meeting, a short informal talk on "Infections of the Hand."

Others present at the meeting were Drs. Goddard, Johnson, Peck, Schmid and Maxon of Harvard; Bailey and Brown of Hebron; J. I. Wernham of Marengo; Curless of Walworth, Wis.; West, Seelye, Baccus, Francis, Ausman and Smith of Woodstock.

A. B. SMITH, Secretary.

MONTGOMERY COUNTY

The June Bulletin of the Montgomery County Medical Society is at hand with announcement of the June meeting and report of the meeting of May 27 as follows:

Our regular monthly meeting was held at Farmersville, with the following in attendance: Drs. P. M. Kelly, M. L. Moyer, L. S. Brown, T. W. Williams, L. G. Allen, Z. V. Kimball, W. H. Mercer, W. B. Kilton, K. L. Hayes, C. R. Driskell, F. C. Blackwelder, A. W. Lindberg, and H. F. Bennett. A paper on "Digitalis" was read by the secretary, which brought out a general discussion.

H. F. BENNETT, Secretary.

OGLE COUNTY

The regular meeting of the Ogle County Medical Society was held at Knights of Columbus Hall, Rochelle, Wednesday, July 16, 1913. A sumptuous dinner was given at Hotel Delos by the physicians of Rochelle to visiting guests, after which the members retired to the hall. At 1:30 p. m. President Houston called the meeting to order. Minutes of previous meeting read by the secretary and approved. Roll call found the following members present: Drs. Beard, Beebe, Beveridge, Crowell, File, Griffin, Houston, Hammett, Kistler, Ketsinger, McEachern and Stevens. Visitors: Drs. Thomas H. Culhane Rockford; George E. Bushnell, Rochelle; R. S. Johnson, Rochelle; W. L. Karcher and wife, Freeport; Mr. Karcher and wife, Freeport; Drs. Daniel Lichty, Rockford; Josie C. Kennedy, Rochelle; Charles J. Whalen, Chicago, and H. G. Wright, De Kalb. Dr. J. M. Beveridge, Oregon, read an interesting paper on "Tetanus," reporting two cases. Special emphasis was given to treatment. This paper was well discussed by Drs. Wright, Karcher, Culhane, Lichty, Beebe and Whalen. Dr. Charles J. Whalen, Chicago, newly elected president of the State Medical Society, read a scholarly paper on the "Modern Diagnosis and Treatment of Tuberculosis." The doctor placed particular stress on the use of tuberculin treatment. Those who failed to hear this able paper missed a rare treat. This paper brought out a valuable discussion by Drs. Beveridge, Beard, McEachern, Karcher and Beebe. Then Dr. W. L. Karcher, Freeport, read

a paper on "Exophthalmic Goiter," illustrated with stereopticon slides. The accompanying lantern slide demonstration drew the close attention of all present.

The name of Dr. Harold Hammett, Stillman Valley, was presented for membership and the doctor was duly elected a member of the society. Election of officers followed. President, Dr. R. E. Stevens, Rochelle; vice-president, Dr. L. M. Griffin, Polo; secretary-treasurer, Dr. J. T. Kretsinger, Leaf River; delegate to state society, Dr. J. M. Beveridge, Oregon; alternate, Dr. S. D. Houston, Polo; censors, Drs. J. C. Akins, Forreston, and H. H. Sheets, Oregon. Motion made that the society extend their thanks and appreciation to Drs. Beveridge, Karcher and Whalen for their able papers presented and to all visiting friends; carried. Motion made on behalf of the physicians of Rochelle that we extend our thanks in return to all members and visitors coming to our city on this pleasant occasion; carried. Great credit is due the physicians of Rochelle for their hospitality. The fine dinner served, refreshing drinks and use of electric fans during the exercises made the day, although exceedingly sultry, one long to be remembered. The society was also grateful to Dr. Whalen, president of the state society, for his presence among us. Taking all into consideration it was one of the best meetings ever held by the society. Adjourned to meet at Oregon the third Wednesday in October, 1913.

DR. J. T. KRETSINGER, Secretary.

TAZEWELL COUNTY

Tazewell County Medical Society met at the City Hall, Delavan, July 15, 1913, with the president, William Niergarth, in the chair. Dr. F. E. Kelly, Green Valley, read a paper on "Intestinal Infections of Children." Dr. Fast, Mackinaw, presented "Case Reports." Dr. O. B. Will, Peoria, read a paper on "The Physician and the Trained Nurse." Dr. Collins, Peoria, presented the subject, "Anesthetics." The attendance at this meeting was above the average and the papers were generally discussed. It will pay every physician in the county to join the society and attend the four meetings yearly, and it will profit them to take part in the programs. After the program the society adjourned to partake of chicken fry provided by Drs. Grimmer and Fockler.

DR. F. E. KELLY, Vice-President.

WHITESIDE COUNTY

The Whiteside County Medical Society met at Rock Falls, June 12. Meeting called to order at 11 a. m. by President E. W. Wahl of Sterling. A paper on "Emergency Surgery" by Dr. C. E. Parker of Sterling was thoroughly discussed.

Adjournment for dinner at Whitney Hotel at 12:30.

At 2 o'clock Dr. M. M. Portis of Chicago delivered a very interesting lecture on "Gastro-Intestinal Diagnosis," with clinical demonstrations.

Dr. Portis's excellent delivery and thorough knowledge of his subject, as well as a complete working set of instruments, gave his hearers a splendid opportunity to gather information from a source seldom presented to them.

Twenty-two members were present, representing Fulton, Tampico, Erie, Prophetstown, Sterling, Morrisson and Rock Falls.

S. A. ALLEN, Secretary.

News Notes

—The change in style in the July JOURNAL seems to have struck the fancy of the profession.

—Governor Dunne has signed the bill appropriating \$4,500,000 for the University of Illinois for the next biennium. This includes \$200,000 for the College of Medicine.

—It cost Dr. Whalen, our president, one dollar to learn that the advice of the Chicago Automobile Association to its members, not to take out a city license, was bad advice.

—The plans for the new Isolation Hospital which have been prepared provide for an institution to cost \$280,000. Every patient will, it is said, have a room or cubicle of his own, with glass walls and provided with a telephone. The hospital is planned to accommodate 136 patients.

—It will interest those who saw recent issues of "*Jim Jam Jems*" to know that the author was convicted in June of publishing obscene literature by United States Judge Willard and sentenced to two years in Leavenworth Penitentiary. He is said to be out on bail, pending an appeal.

—The president of the Illinois Board of Administration states that as soon as the topographical survey of the land secured for the Alton State Hospital has been completed, plans will be prepared and contracts awarded, and that the construction work will commence without delay.

—At the annual meeting of the Iowa and Illinois Central District Medical Association held at the Outing Club, Davenport, the following officers were elected: president, Dr. P. A. Bendixen, Davenport, Iowa; vice-president, Dr. F. H. Gardner, Moline, Ill.; secretary, Dr. L. W. Littig, Davenport, Iowa, and treasurer, Dr. F. H. First, Rock Island, Ill.

—Dr. Wells & Co., "specialists," of 424 South State Street, Chicago, are charged with swindling one Griffith Lewis out of \$112. The "specialists" should worry; there is a new sucker born every minute, sometimes two, and the quacks have a new game also. In this case, they had the victim sign a paper which proved to be a check. They then filled in the amount and cashed it at a bank.

—In a report in the daily press on the condition of Cook County Hospital, signed by Drs. Ludvig Hektoen, E. Wyllys Andrews, E. R. LeCount, James W. Jobling, H. Gideon Wells, F. Robert Zeit, Maximilian Herzog and Frank H. Ames, the following paragraphs appear:

"The committee regards the present laboratory equipment as a disgrace to the county and the labo-

ratory force too small numerically to accomplish more than a fraction of the work which is required to be done daily. The morgue is a tumble-down building located behind the smoke-stack, and the laboratory is under the seats of the amphitheater. The plumbing is old and defective.

"Without inumbering this report with details observed by the committee, the equipment may be described as antiquated, broken and defective."

Personals

Dr. T. J. Foster, Centralia, has returned from Europe.

Dr. C. A. Leenheer of Chicago sailed for Europe on July 3.

Dr. J. Mather Pfeiffenberger, Alton, has started for Europe.

Dr. J. J. Ehresmann of Carrollton is taking a post-graduate course in New York.

Dr. Charles H. Miller, Chicago, started July 8 for a six weeks' trip through New England.

Dr. Alexander W. Burke and Dr. Eugenia A. Miller-Klawans, Chicago, have sailed for Europe.

Dr. John F. Taylor, Buda, was seriously injured in an automobile accident near Coal Creek, July 14.

Dr. Sandor Horwitz, Peoria, was injured in a collision between his automobile and a street car, July 16.

Dr. E. L. Hill, Percy, has been appointed physician to the Southern Illinois Penitentiary, Chester.

Dr. J. D. Dickinson, Galva, who was operated on in Galesburg, recently, is reported to be convalescent.

Drs. Charles B. and Anetta A. Saunders, Chicago, spent the month of July in the Ozark mountains.

Dr. Sidney D. Wilgus, Hospital, has purchased the Jenks Sanatorium, Rockford, from the widow of Dr. Jenks.

Dr. Leonard W. Weaver purchased the practice of Dr. Wickstrom at 1001 Townsend Street, Chicago, May 15.

Dr. Clara Harrison Towne, Lincoln, director of psychology in the State School and Colony, has started for Europe.

Dr. and Mrs. L. L. McArthur, Chicago, are entertaining Dr. Frank Billings at their summer cottage in Mackinac.

Drs. Norval H. Pierce, Cornelius A. Leenheer and Dr. and Mrs. George H. Simmons, Chicago, have sailed for Europe.

Dr. R. L. Eddington, Springerton, has purchased a lot in Lacon on which he states he intends to build a sanatorium.

Dr. A. L. Lindsay Wynekoop, Chicago, has been elected chairman of the hygiene department of the West End Mother's Council.

Dr. Elizabeth H. Dunn of 1154 East Fifty-Sixth Street, Chicago, did not remove to Morris, Ill., as stated in the June JOURNAL.

Dr. Ralph A. Goodner, Nashville, has been appointed superintendent of the Anna State Hospital, vice Dr. W. L. Athon, resigned.

Dr. and Mrs. Alexander F. Stevenson, Dr. and Mrs. John B. Murphy and Dr. Julius H. Hess, all of Chicago, have sailed for Europe.

Dr. P. M. Kelly, Litchfield, has been appointed superintendent of the Kankakee Hospital for the Insane, vice Dr. Sidney D. Wilgus, resigned.

The farm home of Dr. A. H. Arp, Moline, was destroyed by fire, June 30. The loss is estimated at \$10,000, partially covered by insurance.

The University of Michigan has conferred the honorary degree of M.A. on Dr. Lydia DeWitt of the Otho S. A. Sprague Memorial Institute.

Dr. Bertha Van Hoosen, Chicago, had conferred on her the honorary degree of Master of Arts by the University of Michigan, June 26.

Dr. John H. Long, professor of chemistry in Northwestern Medical School, has been appointed dean of pharmacy of Northwestern University.

The degree of D.Sc. was conferred on Dr. Ludvig Hektoen of the University of Chicago by the University of Michigan at its recent convocation exercises.

Dr. James B. Herrick, Chicago, is taking a trip in the Rocky Mountains and will go to his summer home in Vermont, returning to Chicago about October 1.

Drs. D. M. Keith, John Green, S. R. Catlin and W. R. Fringer and Dr. and Mrs. Horace M. Starkey and Miss Starkey, all of Rockford, have sailed for Europe.

Dr. Clyde D. Pence, Chicago, is spending the month of August at his summer home in Neebish, Mich., on the Sault Sainte Marie, where the big fish (stories) grow.

Dr. John J. Killen, 104 S. Michigan Boulevard, Chicago, left for Europe, July 22, and will remain abroad until October 1, visiting the clinics in Laryngology in London and Vienna.

Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, who resigned June 30, has been recalled by the board of administration,

and will continue to serve until his successor is appointed.

Dr. Herbert S. Worthley, Joliet, sailed July 8, for London, England, where he will attend the meetings of the International Medical Congress and devote some time to post-graduate study at London and Paris.

Dr. James W. Jobling, director of the Nelson Morris Research Laboratory at the Michael Reese Hospital, is said to have resigned to become a staff chief of the laboratory of the Columbia University, New York City.

Dr. Albert M. Wickstrom, Chicago, was operated on for appendicitis at the Henrotin Hospital. After recovery he and Dr. Emma M. Wickstrom, his wife, sailed for Europe for a year's post-graduate study.

Dr. Edward L. Hill, recently appointed physician to the Southern Illinois Penitentiary, Chester, was severely injured in a gasoline explosion in his garage at Percy and is under treatment at a hospital in St. Louis.

At the graduating exercises of the Peoria State Hospital Training School for Nurses, June 27, Dr. Frank P. Norbury delivered the annual address; Dr. Eugene Cohn introduced the class, and Dr. George A. Zeller presented the diplomas.

Dr. D. M. Camerer, Chrisman, a graduate of Rush, 1848, celebrated his 89th birthday, July 10, by giving a dinner to a number of his medical friends. The doctor is one of the oldest practitioners of Illinois and is quite well and hearty for his age.

Among the new appointments on the faculty of Northwestern University are the following: Dr. Frederick B. Moorehead, dean of the dental school; Dr. Donald McKay Gallie, professor of operating dentistry; Dr. G. Walter Dittmar, professor of prosthetic dentistry.

Dr. J. S. Nagle, medical officer, of the Second Infantry, while in encampment at Springfield, met with a serious accident. The horse he was riding became unmanageable, reared up and falling backward on the doctor, breaking his leg. He is now at the West Side Hospital, resting more comfortably.

Dr. Martin M. Ritter, the energetic president of the North Shore Branch Chicago Medical Society, arranged with the management of the Bismarck Garden to admit members on free passes Tuesday evenings during the summer. A special musical program was arranged for the first night, July 22. "North Shore Branch Nights" promise to be "Red Letter Days."

Removals

Dr. C. E. Weir has removed from Berwick to Abingdon.

Dr. W. W. Bisson has removed from Abingdon to Charleston.

Dr. L. D. Hughes of East St. Louis has removed to Carrollton.

Dr. E. E. Jouett, who has practiced for several years at Woody, has removed to Carrollton.

Dr. J. W. Adams, formerly of Carrollton, has removed to East St. Louis, 11½ Main Street.

Public Health

—Senator Owen introduced on July 10, Senate Bill 2722, providing for inspection by officers of the U. S. Public Health Service of all vessels, vehicles, trains, depots, etc., used in interstate commerce. The bill was referred to the Senate Committee on Public Health and National Quarantine.

—The beaches along Chicago's water front have become popular resorts for bathing since the water has become clean owing to the action of the drainage channel. A police patrol has added to the safety of the bathers. Now it is proposed by the health committee of the council on the recommendation of Dr. Young and Dr. George Hunt that pulmotors be installed for use in resuscitating the drowned.

—Dr. Young, commissioner of health, Chicago, had to defend his department before a committee of the council, some members of which wanted to transfer part of the department's sanitary inspectors to the building department. The discussion brought out the fact that the health department inspectors discovered many irregularities in buildings overlooked or connived at by the building inspectors. On this showing Mayor Harrison sided with Dr. Young in the dispute. Another new development in inspection is the order to the police to make the external inspections while walking beat, thus relieving the various inspection services of much detail.

—Dr. L. D. Rogers' malodorous institution at 1428 Wells Street, known variously as the National Medical University College and Hospital, the National Maternity Hospital and Training School for Nurses, secured some notoriety recently when parts of cadavers were discovered buried in the yard of the institution. The resulting confusion of authority nearly caused a clash between the State Board of Health

and the city authorities. The fact seems to be that none of Rogers' enterprises have any licenses, but he runs along without serious interference from the authorities. When any protest occurs Rogers starts a suit against someone and defies interference with his plans.

—The Fourth International Congress on School Hygiene, to be held in Buffalo, August 25-30, next, has arranged a bewildering variety and quantity of program under the following general sections:

1. The Hygiene of School Buildings, Grounds, Material Equipment and Upkeep.

2. The Hygiene of School Administration, Curriculum and Schedule.

3. Medical, Hygienic and Sanitary Supervision in Schools.

The imposing list of contributors to the programs and the promised elaborate display of materials insure the surpassing success of this congress.

The London *Medical Officer* of July 12, says: As a center for holding an important international gathering, Buffalo has few equals. It is a progressive city in which there is much to interest the visitor, and its inhabitants have a high reputation for hospitality. It is only twenty-two miles from Niagara, which can be reached by tram car or by rail at a return fare of two shillings. We hope that many other local education authorities will follow the example of that of London and will give facilities to their school medical officers to attend what we trust will be a most successful meeting.

Prof. Sheridan Delépine, Director of the Public Health Laboratory, University of Manchester, from studies of the milk-supply of Manchester, concludes that the reduction of deaths under 5 years of age from tuberculosis other than phthisis during the five years, 1905-09, was 22 per cent. greater in Manchester than the average reduction throughout England and Wales. This very marked improvement he attributes to the strict enforcement of local rules barring out of the Manchester milk-supply the product of all cows, which, when inoculated into guinea-pigs, produced tuberculosis. Veterinarians examine the herds and secure samples of milk from all suspicious cows, especially from all giving evidence of lesions of the udders. This system has been followed for fifteen years and the samples have all been examined in his laboratory. He reports that:

1. The proportion of tuberculous milk (as supplied to consumers) has been reduced to nearly one-third of the original amount.

2. The number of farms with cows suffering from tuberculous mastitis has been reduced to nearly the same extent.

3. The infectivity of the milk which still remains tuberculous has been reduced to a much greater extent.

4. The proportion of cases of tuberculosis in children under 5 years of age has been reduced by one-half.

5. In Manchester the reduction in mortality from tuberculosis other than phthisis has been proportionately greater than the reduction in the mortality from phthisis alone or from all kinds of diseases.—*Abstracted from Reprint from The Journal of State Medicine, June, 1913.*

—The American Society for the Control of Cancer has nominated a committee of influential physicians to take up actively the national movement for the prevention of the spread of cancer. The executive committee of the society consists of Drs. Joseph C. Bloodgood and Thomas S. Cullen, Baltimore; Dr. LeRoy Brown, St. Paul, Minn.; Drs. George E. Brewer, Livingston Farland, Howard Lillenthal, James Ewing, William E. Studdiford, Robert Abbe and D. B. Delevan, all of New York City; Dr. F. F. Simpson, Pittsburgh; Drs. A. D. Bevan and Frederick R. Green, Chicago; Dr. C. Jeff Miller, New Orleans; Dr. Charles A. Powers, Denver; Reuben Peterson, Ann Arbor, Mich.; Dr. W. T. Councilman, Boston; Dr. Edward J. Ill, Newark, and W. J. Mayo, Rochester, Minn. The chief aim of the committee is to educate the public on the symptomatology of cancer and the imperative need of early diagnosis and immediate remedial steps.

At the annual meeting of the Association, May 5, 1913, the following resolution (the report of the Committee on Statistics and Public Education) was unanimously adopted:

It is the sentiment of this Association that:

1. The present instruction of medical students in the symptoms and early diagnosis of cancer is seriously deficient.

2. The medical curriculum should include special lectures in the clinical departments dealing specifically with this subject.

3. The universities should provide competent lecturers in this subject to address the local medical societies.

4. The Associate Members of the Association should be urged to take up the question of the proper methods of approaching the public on the subject of cancer.

5. The activities of this Association should at present be chiefly confined to the education of the medical profession.

6. This resolution shall be sent to the Deans of the medical schools and the secretaries of the state medical societies in the United States and published in the medical press.

—A report of the Medical Department of the Royal League, for 1911-1912, has recently been issued. It is written by Dr. W. K. Harrison, Supreme Medical Examiner of the Royal League, and, as usual, is well worth reading. It is of especial interest to life insurance men.

The following is taken from Dr. Harrison's report.

Records of states and cities where accurate mortality records are kept show a very notable increase in mortality due to degenerative diseases. Figures compiled by Mr. E. E. Rittenhouse demonstrate an increase of 95 per cent. in the years between 1880 and 1910, and an increase of 19 per cent. in the ten-year period, 1900 to 1910. He finds that the mortality rate from apoplexy, paralysis, diseases of the heart, circulatory system, kidneys and liver has heavily increased in the younger as well as the older groups. Between the ages of 40 and 54 this increase is a fraction more than 25 per cent.

The causes of this useless waste of human life at its most useful and productive age are not far to seek nor hard to find. High pressure living and habitual violation of simple hygienic rules have caused an increase in mortality after age 40 which is simply staggering.

The foundation of this increased mortality of later years is laid in early life. "Some educators have forgotten, if, in fact, they ever knew, that schooling in youth is properly but the forging of the tools where-with the scholar is to educate himself in later life. It should be but a training in the use of books, hands, eyes, ears and brains, instead of a brain wrenching effort at a period when the brain is undergoing its greatest development to memorize volume after volume, the contents of which cannot possibly be retained in memory, and would be of no practical value in the affairs of life if they were."

If the youth does not break down during, or at the end of, school days, he enters a world of tremendous strain no matter what his calling in life. The burden of competition is on him and he must strive with all his might if he would win success in his chosen occupation. He works inordinately and eats inordinately and swamps his system with the toxins of fatigue and the poisons of indigestion. These entering the blood stream, overtax his excretory organs and provoke degenerative changes in his blood vessels. Such slowly destructive processes are, in too many cases, aggravated and hastened by insufficient sleep, too infrequent or too short vacations, and the use of alcohol. The overworked man needs recreation, but can take it only at the expense of needed hours of sleep, then tries to alleviate the fatigue of overstrain and underrest by anesthetic doses of alcohol. The disastrous terminations appear all along the line, but become startlingly frequent in the fourth and fifth

decades. Education has been effective in decreasing infant mortality and in lowering the tuberculosis death rate, and now there seems to be urgent need for the establishment of schools of common sense which shall teach adults a few long established, fundamental principles relating to the care of their bodies.

Marriages

JOHN ADAMS WOLFER, M.D., Chicago, to Miss Edna Ola Kunze of Detroit, June 10.

LEROY PHILIP KUHN, M.D., to Miss Grace Engebretson, both of Chicago, June 28.

SAMUEL E. PARR, M.D., to Miss Alice Louise Strawn, both of Ottawa, Ill., June 18.

BERT LESLIE TAYLOR WOOD, M.D., to Miss Edna Swissler, both of Chicago, June 25.

ISRAEL HENRY CHILCOTT, M.D., to Miss Vera Marguerite Apfel, both of Chicago, June 4.

L. J. HENSLER, M.D., of Carrollton, was married on June 14 to Miss Anna Cain of Marshall, Mo.

RALPH GRAHAM, M.D., Monmouth, Ill., to Miss Ella Margaret Griffith, at Monmouth, June 25.

MILLARD HOLLOWAY IRWIN, M.D., Nokomis, Ill., to Miss Harriet Tucker of Evansville, Ind., June 28.

ROBERT FRANKLIN LISCHER, M.D., Mascoutah, Ill., to Miss Clara E. Herman of Freeburg, Ill., June 10.

WARREN FREDERICK PEARCE, M.D., to Miss Lillian Temple Swope, both of Quincy, Ill., May 1.

ROBERT GARFIELD SAVAGE, M.D., Oak Park, Ill., to Miss Margaret Neary of Austin, Chicago, June 11.

CLIFTON KERSEY TIMMONS, M.D., Chicago, to Miss Bernice Elizabeth Cota of Lagrange, Ill., June 24.

Deaths

F. M. ENTREKIN (license, Illinois State Board of Health, 1881); died at his home in Coffeen, Ill., about June 9.

EDWARD G. FORSHEE, M.D., Cincinnati College of Medicine and Surgery, 1864; of Kimmunity; died July 10, from acute indigestion, aged 78.

WILLIAM H. H. MCCLLOUD (license, years of practice, Illinois, 1878); for forty-six years a practitioner; died at his home in Ridge Farm, June 4, aged 67.

GEORGE HENRY P. WEEKS, M.D., Hahnemann Medical College, Chicago, 1888; of Chicago; died in St. Ann's Hospital in that city, June 6, from pneumonia, aged 46.

CHARLES C. SATER, M.D., Miami Medical College, Cincinnati, 1872; died at his home in Atlanta, Ill., June 25, from the effects of a wound received during the Civil War, aged 73.

COLIN M. ROBERTSON, M.D., Missouri Medical College, St. Louis, 1857; for more than half a century a practitioner of Menard County, Ill.; died at his home in Tallula, June 14, aged 92.

FREDERICK A. DIETRICH, M.D., Rush Medical College, 1866; New York University, New York City, 1871; Hahnemann Medical College, Chicago, 1873; a member of the Illinois State Medical Society; died at his home in Freeport, Ill., June 15, aged 76.

HARRY STILLMAN WILCOX SPENCER, M.D., Rush medical College, 1908; a fellow of the American Medical Association and once secretary of the Kankakee Medical Society; was drowned while fishing in the Kankakee River, July 17, aged 33.

LEWIS H. SKAGGS, M.D., Rush Medical College, 1863; surgeon of the Ninety-Fourth Illinois Volunteer Infantry throughout the Civil War; and for half a century a member of the Illinois State Medical Society; died at his home in LeRoy, July 10, aged 78.

JAMES FRANKLIN CRAVENS, M.D., Rush Medical College, 1857; a practitioner of Chicago from 1860 to 1898, when he moved to Spirit Lake, Iowa, to become president of the First National Bank of that place; died at the home of his niece in Chicago, July 20, aged 78.

JOHN ROBERT JENKINS, M.D., Miami Medical College, Cincinnati, 1879; a member of the Indiana State Medical Association; a Confederate veteran; formerly a practitioner of Shelbyville and Hammond, Ind.; died at the home of his daughter in Evanston, Ill., June 15, from nephritis, aged 71.

HUGH SCOTT, M.D., University of Edinburgh, Scotland, 1859; for twenty-six years a practitioner of Chicago and for four years a member of the Board of Health; said to have been one of the founders of the first training school for nurses in Chicago; died at his home in Fond du Lac, Wis., July 11,

Book Notices

ELECTRICITY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT. By W. Franklin Coleman, M.D., M.R.C.S., Eng.. Ex-President of and Professor of Ophthalmology in the Post-Graduate Medical School of Chicago. Ex-President of the Ophthalmological Society of Chicago. Professor of Ophthalmology in the Illinois School of Electro-Therapeutics, Chicago, etc.

This is a sane, comprehensive presentation of the value of electrical modalities in the treatment of diseases of the eye, ear, nose and throat.

The writer has for many years been a profound student of electro and light therapy, while in no sense dispensing with time-honored methods of treatment. In this volume he gives the results of his experimentation and practice which prove conclusively that no practitioner can afford to be unfamiliar with the benefits procurable from the use of high-frequency and sinusoidal currents, x-ray, high-power lamps, etc.

The specific technic is tersely and clearly given, serving as a sure guide to those who wish to use these modalities in similar cases.

The book is well illustrated.

PREVENTIVE MEDICINE AND HYGIENE. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard; formerly director of the Hygienic Laboratory, U. S. Public Health Service. With chapters on Sewage and Garbage, by George C. Whipple, Professor of Sanitary Engineering, Harvard. Vital Statistics. By Cressy L. Wilbur, Chief Statistician, Bureau of the Census, Department of Commerce and Labor. The Prevention of Mental Diseases. By Thos. W. Salmon, Director of Special Studies, National Committee for Mental Hygiene, etc. New York and London. Price, \$6.00. D. Appleton & Co., 1913.

Professor Rosenau, one of the men who reflects great credit on the public health service of the United States government, has had the cooperation of other distinguished gentlemen in the preparation of this excellent work. The volume is planned to include those fields of the medical and related sciences which form the foundation of public health work. So far as known no other book on the subject covers the broad field considered in this volume. The progress in hygiene and sanitation has been so rapid that the subject of preventive medicine has become a specialty, and its scope has become so broad that the question throughout the making of this book has been rather what to leave out than what to include. The facts here brought together are widely scattered in the literature and many of them are difficult of access; they have been collected for the convenience of the student of medicine and the physician, as well as those engaged in sanitary engineering or public health work.

Exact knowledge has taken the place of fads and fancies in hygiene and sanitation: the capable health officer now possesses facts concerning infections which permit their prevention and even their suppression in some instances. Many of these problems are compli-

ated with economic and social difficulties, which are given due consideration, for preventive medicine has become a basic factor in sociology.

THE OPERATING-ROOM AND THE PATIENT. By Russell S. Fowler, M.D., Chief Surgeon First Division, German Hospital, Brooklyn, New York. Third edition rewritten and enlarged. Octavo volume of 611 pages with 212 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$3.50 net.

The third edition of Dr. Fowler's excellent volume has been called for not less than six years, showing that it supplied a real demand on the part of the surgical profession. That particular department of hospital work not found in the Hornsby and Schmidt book will be found in the Fowler work. The instruments and dressings commonly employed in eighty-three different operations will be found in the closing chapters of the book. As is the case in all of Saunders productions it leaves nothing to be wanted.

LABORATORY METHODS. With Special Reference to the Needs of the General Practitioner. By B. G. R. Williams, M.D., assisted by E. G. C. Williams, M.D., formerly Pathologist of Northern Michigan Hospital for the Insane, Traverse City, Mich., with an introduction by Victor C. Vaughan, M.D., LL.D., Professor of Hygiene and Physiological Chemistry and Dean of the Department of Medicine and Surgery, University of Michigan, Ann Arbor, Mich. Second Edition. Illustrated with forty-three engravings. C. V. Mosby Company, St. Louis, 1913. Price, \$2.50.

From the press of C. V. Mosby Company, St. Louis, comes the second edition of "Laboratory Methods," by Williams and Williams, dedicated to the general practitioner, with an introduction by Victor C. Vaughan, M.D.

The fact that a second edition is called for is proof that it has attained a place in laboratory literature. It is designed to meet the needs of the general practitioner, and, as such, is an excellent work. It shows how to equip a working laboratory at a low cost. Some forty illustrations assist in making plain many useful laboratory tests as given.

Of especial value are the chapters on "The Detection of Common Poisons," and also on "Urinalysis."

It is written in a very clear style and is of good appearance generally.

DISEASES OF THE EYE. By George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania. Seventh edition, thoroughly revised. Octavo, 979 pages, 360 text illustrations and seven lithographic plates. Cloth, \$5.00, net; half morocco, \$6.00, net. W. B. Saunders Company, 1913, Philadelphia and London.

A medical text-book having run seven edition needs nothing more to recommend it. It has already attained its place in medical literature and medical libraries.

"Diseases of the Eye," by George E. de Schweinitz, M.D., is an exhaustive work, profusely illustrated. The illustrations in the main are good. The type is good, clear and easily read. Fifty-five pages are devoted

to general optical principles, and a like number to examination and functional testing. Ophthalmology and skiascopy are given ample attention, and fifty-odd pages are given to refraction. Diseases of the eye are given 587 pages, and the operations are given 116 pages.

The work should be in the library of every ophthalmologist, and while it is a vastly more important book to ophthalmologists, the general practitioner will find it of exceeding interest and usefulness. The chapters given to diseases are replete with information for the general practitioner, giving clearly the symptomatology and treatment of the various pathologies. Special attention has been given to illustrations of many of the diseased conditions, thus helping the question of diagnosis.

The publishers are to be congratulated on being able to offer this work.

HYGIENE AND SANITATION. A Text-Book for Nurses. By George M. Price, M.D., Director, Joint Board of Sanitary Control; Director of Investigation, New York State Factory Commission. 12mo, 236 pages. Cloth, \$1.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

This little book, just from the printer, is one of the books which an institutional nurse should read. While it is of interest to visiting nurses, outdoor and dispensary nurses, tuberculosis dispensary nurses, factory nurses, etc., it will be of interest and value to all practicing nurses. It contains chapters on: The study of hygiene; hygiene of habitations; hygiene of foods and food supply; hygiene of schools and school-children; hygiene of occupation; hygiene of municipalities; personal hygiene.

It contains many tables of value. Its chapters on food are good, and it has dealt fully on milk: Milk production; milk bacteria; care of milk; milk preservation; sterilizing and pasteurizing of milk; milk testing and inspection, and many other matters pertaining to milk products and milk foods.

Its chapter on functions and duties of school nurses is quite complete and contains much information of value to school nurses, put in a brief and convincing manner. The print is good, easily read, and every nurse possessing a copy will find within its covers much of benefit to her.

BLOOD-PRESSURE. From the Clinical Standpoint. By Francis Ashley Faught, M.D., of the Medico-Chirurgical College, Philadelphia. Octavo, 281 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1913. Price, \$3.00, net.

As we have come to know more of the circulatory system and its pathologies, blood-pressure has come in for a large amount of study and investigation. Many instruments have been devised to obtain this information, a number of which, especially the earlier ones, have been described by the author, noting both their good points and their disadvantages.

In this work the author deals with the principle of the sphygmomanometer with directions for its use—the various methods of taking, and factors influencing

blood-pressure. He writes of the blood-pressure of the various diseases in which the circulatory system is involved.

Of especial interest are chapters on blood-pressure in surgery, blood-pressure in obstetric practice, and blood-pressure in life insurance.

Since a sphygmomanometer has become a necessary part of the doctor's armamentarium, a work of this kind, teaching its uses, is very necessary.

We recommend the book for what is in it, but should like it better if a lighter paper were used, thereby lessening its size and weight.

BLOOD-PRESSURE IN GENERAL PRACTICE. By Pereival Nicholson, M.D. With seven illustrations. J. B. Lippincott Company, Philadelphia and London, 1913. Price, \$1.50.

A handy little volume, describing various blood-pressure instruments and their uses, and dealing somewhat with the blood-pressure in various diseases, more especially those diseases in which the circulatory system is disturbed. The volume contains a considerable amount of information on the subject, is brief, and may well be used in the study of blood-pressure taking and sphygmomanometers.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (MAYO CLINIC) FOR 1912. Octavo, 842 pages, 219 illustrations. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$5.50, net.

The W. B. Saunders Company presents the sixth volume of collected papers by the staff of the Mayo Clinic, which contains the articles written and presented for publication to the various journals during the year 1912.

The work contains papers from many members of the staff, with, of course, the major part of them from William J. and Charles H. Mayo.

The enormous clinics held in St. Mary's Hospital form the basis of material for these articles, and from this world of material and the excellent method of tabulating their observations it is no wonder such a volume comes forth. One could scarcely wish for a better treatise on the subjects treated.

The volume is profuse with illustrations which illustrate, and they add much in value to the work. One can scarcely recommend this work too highly.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume II, Number III. (June, 1913.) Octavo, 185 pages, 62 illustrations. W. B. Saunders Company, Philadelphia and London, 1913. Published Bi-Monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

As usual, these clinics are full of interest. Among the cases recited are obturation ileus, intestinal stasis by adhesions, paratracheal tumor, fracture of neck of femur, infections granuloma of the caecum coli; Pott's disease, procidentia uteri, and others, all of much value and importance.

These clinics are in the author's usual brief, descriptive and convincing language, which gives him a foremost place among the great teachers of surgery.

THE PSYCHONEUROSES AND THEIR TREATMENT BY PSYCHOTHERAPY. By Prof. J. Dejerine, Professor of the Clinic for Nervous Diseases of the Faculty of Medicine of the University of Paris, and Dr. F. Gaukler, Ancien Intern of the Hospitals of Paris. Authorized Translation by Smith Ely Jelliffe, M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System, Post-Graduate Medical School and Hospital; Visiting Neurologist, City Hospital, New York. J. B. Lippincott Company, Philadelphia and London, 1913. Price, \$4.00.

A new translation from the press of J. B. Lippincott Company is "The Psychoneuroses and Their Treatment by Psychotherapy."

The average doctor is frequently inclined to think a treatise on this subject rather dry. If that presumption is correct, this work proves the exception. It is extremely interesting and entertaining. The reader is inclined to read on until the hours are small.

The contents are divided into three parts. The first part is analytical, and is devoted to the study of symptoms or functional manifestations observed in psychoneuroses. The second part is synthetic—the author deals with the general mechanism of the foundation of the psychoneuroses and their variations. In the third part, the therapeutic, is given the psychotherapeutic proceedings which should be used in treatment of the various psychoneuroses.

There is no doubt that the medical profession does not give sufficient attention to this particular branch of medicine. The fact that in every city and village the Christian Scientists, so-called, are flourishing, and their readers pushing their teachings in every locality; that almost any other cult which deals with what the laity likes to call "the supernatural," grows like mushrooms, is proof of the laxity and shortsightedness of the medical profession in this regard.

This work should give the doctor a good insight into this newer specialty of medicine.

GONORRHEA IN WOMEN. Its Pathology, Symptomatology, Diagnosis and Treatment; Together with a Review of the Rare Varieties of the Disease Which Occur in Men, Women and Children. By Charles C. Norris, M.D., Instructor in Gynecology at the University of Pennsylvania. Octavo, 521 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$6.00 net; half morocco, \$7.50 net.

This new book from the W. B. Saunders Company is one of the best on this subject we have seen. It deals extensively with this disease. More cases of gonorrhea in the female are treated by the general practitioner than are treated by the specialist. For that reason this work becomes of especial interest to the general practitioner.

The chapter on the history of the disease is as complete as we are likely to get it, and is very interesting. The work takes up in detail practically all the complications which arise from this disease, giving rather full description of pathologies, symptoms and treatment. It has a chapter on sociology as pertaining to this disease, another on prostitution, and one on prophylaxis. The illustrations are good and the print is excellent. We recommend this work for your perusal.

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Original Articles

THE DIAGNOSIS OF FEEBLE-MINDEDNESS *

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VINELAND, N. J.

It might be contended that this is a subject of no interest to the physician, since feeble-mindedness, not being a disease, does not come within the limits of his profession. Whatever the theoretical view one might take on this matter, the fact remains that it is the physician who is, in almost all cases, first consulted in reference to feeble-mindedness. He, therefore, has the opportunity of rendering very great help in the form of advice to parents. Not only this, but feeble-mindedness has so much in common with insanity, that if the physician is to correctly diagnose insanity, he must also know feeble-mindedness, if for no other reason than to eliminate it from his consideration.

It is more than likely that some of my hearers will have scant interest in this topic, because of the feeling that they understand already how to diagnose feeble-mindedness. To such as these it becomes necessary to say at the outset, that what we mean by feeble-mindedness is not what you mean. To most people feeble-mindedness means idiocy or imbecility; that is, it means a person suffering from a defect so great that it is evident in every movement or, indeed, in his very face.

We would emphasize at the start that we are not discussing at the present time this type of feeble-mindedness. It is true, that in the case of imbecility the condition is so marked that almost any one can diagnose it. It may indeed be confused with insanity, sometimes with hysteria, with epilepsy or a few other things, but in the main there is no serious difficulty along this line. Everyone knows the "silly boy" or the

"foolish girl," since every community possesses one or two of them.

We are speaking in this paper of a type of defective that is not recognized by any external mark. These people are often very fair to look on, as well developed physically, as pleasant and agreeable as any children. Experience with them shows that they are not quite like other children; they are dull or slow, or stubborn and obstinate, or in some way show that they need special training. But it is customary to find some excuse for them and to insist that we have only to be patient and they "will come out all right in the end." We now know that they do not come out all right in the end; but on the contrary, they show their defect more and more as they get older and prove to be incapable of self-support, to the sorrow of the family or to the cost of society.

The importance of this problem is recognized in an instant when we learn that at the very lowest estimate 25 per cent. of our criminals belong to this class. Perhaps 50 per cent. of our prostitutes are feeble-minded girls; the same is true of our paupers, our drunkards, our ne'er-do-wells; in fact, we now recognize that a large percentage of the various classes of people who make our social problems are mentally defective. Twenty-five per cent. is a minimum estimate, while it has been shown that in all probability 50 per cent. is much nearer the truth, and it may run even higher.

A superintendent of one reformatory for men estimates that 75 per cent. of his inmates are feeble-minded; careful tests of the girls in a reform school have shown 72 per cent. feeble-minded. In fact, wherever there are any statistics, it invariably points to the higher figure. In all of these cases an early diagnosis is of supreme importance for many reasons which will occur to you without any suggestion from me.

One or two reasons, however, I may emphasize. In the first place, contrary to the usual belief, these feeble-minded children are naturally inno-

* Read at a meeting of alienists and neurologists, under the auspices of the Chicago Medical Society, June 23, 1913.

cent; they are not vicious or malicious; if they appear so when they get older, it is only because they have been misunderstood, and being misunderstood have been mistreated. Responsibilities have been put on them which they could not bear, and under those responsibilities they have broken down or rebelled.

The feeble-minded girls who have become prostitutes would have been saved from a life of prostitution had their feeble-mindedness been recognized early and they cared for where they would not have been led into such temptation. It is far easier and far cheaper to care for these persons in institutions or colonies for the feeble-minded than it is to care for them in jails and prisons and almshouses, or to pay the cost of their immoral lives.

Lest someone should be staggered by the large percentages that I have quoted, let me say that it is now accepted, one in every three hundred of the population is feeble-minded, with the probability that one in every two hundred is more nearly correct; or 2 per cent. of the school population, if we are thinking of the children. This at once shows us the size of the problem and the possibilities for evil if it is not at once dealt with. Apply it to your own school system, in your own city or town, and try to imagine what it means that 2 per cent. of all the children attending your public schools are feeble-minded, and therefore are potential paupers, criminals, prostitutes or drunkards; and remember, that if we would go into those schools to-day and pick out those children and take care of them, we could bring it about that they would become happy and contented, and partially useful persons. Whereas, if we neglect them as we have done in the past, they will swell the ranks of the above-mentioned classes constituting our social problems.

Without taking more time on this phase of the subject, I trust it is clear that we have here a problem of no mean proportions. As already intimated the physician has a marvelous opportunity to be helpful to society in this direction. In the past we have not recognized these people, because, as I have said, we have been looking for idiots and imbeciles. We have insisted that any child, no matter what his record, if he did not show certain stigmata of degeneration, certain conditions recognized as belonging to the idiot or imbecile, must "come out all right." Our decision in this matter has been forced on us also for other reasons.

In the first place, we do occasionally find children who are peculiar who do come out all right,

and we have not been able to distinguish these from those who do not. Secondly, these children, besides being well formed and pleasing to look on, are usually very affectionate, and we cannot believe that such children are incurably defective. Again, it is an unpleasant task to tell parents that they have a feeble-minded child, and so we cling to the hope that this case is curable. We comfort ourselves by saying when we are in doubt: It is better to err in the right direction. I would remind you that there is no right direction. Error is error, and error is serious, and our decisions may bring untold loss in the future.

Small-pox is now fortunately so rare that many a practicing physician has never seen a case. Imagine a physician diagnosing a case and being in doubt as to whether it is small-pox or measles, and concluding that he will be on the safe side and call it the milder disease, measles! The consequences might be something terrible to contemplate.

No less serious is it to call a child who is feeble-minded simply a case of slowness, and to assure the parents that he will come out all right. So much for the seriousness of the problem and the necessity for an early diagnosis.

We come to our central problem, "How shall we diagnose?" What are the signs or symptoms? This is no easy question; the symptoms are not easy to describe. A person who has had long experience, of months or years, with known cases of feeble-mindedness such as are found in our institutions, easily recognizes the fact, although he is not always able to tell just how he knows. It is the old problem of the expert who recognizes things within his line, where the inexperienced cannot see any indications whatever. I have seen such experts go into a schoolroom of supposedly normal children, and after looking about for a few minutes, pick out the three defective children in the room, even though to the casual observer they showed no difference from the other children, and yet the teacher reluctantly admitted that they were her dull pupils. It then proved that they were more than dull, they were strictly feeble-minded. I have seen experts at the immigration station pick out the Russians or Italians or Scandinavians as they pass along the line, and careful psychologic tests later proved that they were absolutely correct in considering them feeble-minded.

The physician has usually no opportunity to become an expert of this character. Of course, if he cares to do so, he can specialize in this and in time become quite an expert in detecting such

children, but it is not the purpose of this paper to attempt to make of the physician an expert detector of feeble-mindedness; but the physician may easily learn enough about the problem to become wise enough to suspect feeble-mindedness when a "peculiar" child is brought to him; he will then do just what he does in cases of disease or conditions where he does not claim to be an expert, he will turn them over to the one who is an expert.

Now what are the things that will make anyone suspicious? The first thing is the most obvious, that the child is backward in school, or dull or slow in his development. A child who has been in school regularly and is two or three years behind his grade is so suspicious that it is almost certain that he is feeble-minded. A boy or girl who has grown to be 15 or 16 years old and still prefers to play with children of 6 or 8 or 10 years of age is very suspicious.

We hear a great deal about speech defect, and there are, it is true, some speech defects that are cured. There are some children who do not learn to speak until they are 4 or 5 years of age, and then learn and prove to be entirely normal, but we must recognize, as a matter of fact, that these are the exceptions, and a child that is two or three years late in learning to talk is decidedly suspicious, and the probability is very great that he does not talk because he has not any mind, or, at least, not enough to pick up language as the normal child does.

I have told you that the good appearance of the child physically does not warrant us in concluding that he is normal mentally or will become so later.

Let me call your attention to some other things. A child comes in for examination and we find that he comes from a poor home, from bad environment, that he has not had enough to eat, and is clearly a case of malnutrition. We find that he is two or three years backward, but we say that malnutrition is the cause of this, and he has only to be fed up and he will completely regain his lost ground. In this connection I only need to remind you that malnutrition, indeed, even starvation, does not produce feeble-mindedness. It will not affect the nervous system and the brain so as to make the child as much as three years backward. If he has that degree of backwardness, it is due to something more fundamental than malnutrition. The truth of this you will accept when you recall the fact that the entire organism is strangely resistant

to starvation, and that of all the tissues of the body, the nervous system is most resistant. This has proved to be true, both in man and in animals.

A very great help in the diagnosis of these cases is a knowledge of the family history. If observation and questioning of the condition of the parents or other relatives show that there were among them those who were never able to take care of their families, or, in the terms of the definition, "to manage their own affairs with ordinary prudence," then we have a strong probability that it is a case of hereditary feeble-mindedness.

I cannot take time in this paper to discuss the various methods of psychologic examination, the so-called tests of intelligence. I can only say in passing that those of you who are interested to take up some phase of this cannot do better than to study the Binet-Simon measuring scale of intelligence. When you read this over you will undoubtedly say, as we all did, that it is too simple to be efficient, and yet it has proved and is daily proving to be marvelously accurate and helpful. In the hands of the experienced person this scale will diagnose feeble-mindedness to a fineness and an accuracy that is little less than marvelous.

In conclusion, let me say, that while there is still a great deal to be learned about this matter of the feeble-minded, enough has already been discovered to make us feel safe in saying that the usual excuses that we give for a child's backwardness or peculiarity are not safe excuses. We knew enough already to justify us in our conviction that the child who does not develop like other children is very probably feeble-minded, and if we are not satisfied to pronounce this verdict, it is at least wise for us to turn him over to someone who can give expert advice. At least we should not put to sleep the parents' suspicion, thereby putting off the day when they will proceed to a right treatment of the case, but rather we should recommend that the child be sent to an expert and given a careful psychologic examination.

While, as I have reiterated, the problem is one for the specialist, yet every physician can do much toward helping out this matter, and by so doing will confer a benefit on society, as great as anything he can do and fully comparable to the service he renders when he disposes wisely of a case of small-pox or plague.

SOME TYPES OF THE FEEBLE-MINDED *

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Since anything like a systematic or even orderly study of the feeble-minded began, it has been customary to designate certain groups on account of characteristic physical or mental findings. It has been a fairly common fault to such grouping that the characteristics brought out were often more or less indefinite, lacking in clear-cut qualities that would permit ease of differentiation. No perfect classification seems to have been evolved, but steps are being made apparently in the right direction.

While I have nothing basically new to add as regards the present system of grouping or study of these children, there are several points that may be brought to notice and so develop helpful discussion. Owing to the large number of papers for this meeting, statistical tables have been dispensed with, but it is my purpose to discuss briefly some of the results in a study of upward of 2,000 mental defectives.

It may be new to some of you to learn that a favorite reference in each book of the older authors dealt with such defectives as were fancied to have a physical resemblance to representative racial types. Thus there were to be found the "North American Indian" type, the "Negroid," the "Malay," the "Mongol," etc. Those working with the feeble-minded will be perfectly familiar with this terminology. As an important consideration in the present-day methods of study the Mongol alone survives.

In my contact with mentally deficient children, I have been denied seeing a child that I could conscientiously classify under the heading "North American Indian" type, even stretching my imagination to get him to look like a red-skin; two "Negroid" discoveries turned out to have pathologic bases for their appearance and that collection ended; and we have also failed to observe an example of the "Malay" type. Of Mongolians, however, there has been a considerable number—about 40 in all—and constituting 1.7 per cent. of the total cases. This percentage of incidence is somewhat lower than made by other observers—Treadgold giving as high as 4 per cent. of all aments. While the fact that the majority of children under this heading are affectionate, likeable and comparatively easy to care for at home may account for them not being steady residents

of institutions, sooner or later they are given a trial to see if they will not improve mentally under training; therefore, the general run can be included in the statistical tables. The claim that the Mongols are increasing in numbers with regard to relative as well as absolute figures we have not found substantiated by our records.

Etiologically, our efforts have shown nothing that would throw further light, except that the proportion of cases due to luetic origin, or at least associated with syphilitic ancestry, has been surprisingly large. Over 50 per cent. of our cases give either undoubted or strongly suspicious evidence of this disease. In this connection I may say that our Wassermann tests are not yet finished, but we expect to get the results tabulated in the near future.

I have had opportunity in only two cases to diagnose Mongolism during early infancy—these not being institution inmates. The fathers of these infants had both acquired syphilis to my personal knowledge, one father undergoing an attack of cerebral syphilis several years preceding the child's birth.

Our statistics do not show a distinct relationship between a Mongolian child and parents of rather advanced years at time of conception, though there were several suggestive instances, the father being well advanced in age. And while several of these children were the last born of large families, such occurrences made up a minority.

The remarkable physical resemblance so often seen in typical Mongols, causing them to appear like brothers and sisters, makes it seem probable that some deficiency of one of the ductless glands is responsible for the uniform grouping of physical abnormalities. The diagonally placed palpebral fissures, the rough transversely fissured tongue with its enlarged circumvallate papillae, the pitcher-shaped ears, the high cephalic index, the tendency to chronic inflammation of the mucous membranes and general harshness of the skin, and the spade-like hands and feet are conditions most constantly met with; to a lesser degree one finds the prominent abdomen, redness and flat appearance of the face with the external openings of the nose pointing forward instead of downward, deformities of the thorax, knock-knee, flat foot, thumbs and little fingers too short and hyperextensibility of the joints; this being especially marked in the hands. Our cases have suggested that previously enough importance has not been ascribed to the frequency of mucous membrane and skin involvement in diagnosing Mongolism; it is certain that we have found this

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abnormality more constantly present than any other—not even excepting the peculiarly marked tongue, which latter has been claimed to be pathognomonic. This we have not found to be so, an examination of the tongues of our children revealing a number who have characteristic tongues, but no other features that would suggest this state.

Suffice it to observe in this connection that the above signs, in addition to a reduced bodily stature and general lack of resistiveness to disease invasion, indicate such a profound disturbance of the centers of nutritional control that when the causative factors are really understood it will mean a probable revolution in our present-day ideas of metabolism. Herein lies one of the chief values of thoroughly studying the Mongolian type. A brilliant discovery can easily be followed by an epoch-making era in medicine.

In passing from a consideration of this type it is only fair to call attention to the poorness and superficial quality of the term Mongolism. The fact of the matter is that while the children so referred to have often a most striking and characteristic physical resemblance to each other, that resemblance is but fanciful as applied to the Mongolian race. The name was first used because of the oblique position of the eyeslits, but the grouping of signs often occurs without this deformity being marked. When one remembers, in addition, that the Mongolian child does not often exceed four years of intelligence age as tested by the Binet-Simon scale, it is small wonder that the "Yankees of the Orient" are prone to object to this nomenclature.

The Cretinic.—Though radically different in a number of ways cretins and Mongols also present points which are quite liable to make the one type suggestive of the other. This similarity has been recognized by writers who have outlined a differential analysis in their discussions of the two subjects. Only the atypical forms are likely to cause confusion. The cretin has the short massive build with misshapen extremities, thick chest, lumbar lordosis and the skin generally presenting a tawny, pudgy appearance; the head is proportionately large, the cranium being brachycephalic, the eyes small and set far apart, and the eyelids having a puffy appearance that would suggest a nephritic lesion to the practitioner; the cheeks are large, the lips thick, and the tongue large and often protruding.

As is well known a congenital or at least early loss of thyroid gland functioning is the cause. Why this loss of function should exist has been variously ascribed to climatic conditions, to the

water and food ingested, to the lack of sufficient sunshine, etc. Some observers feel assured that deficient or abnormal thyroid functioning in the mother is responsible. Some deny that heredity plays a part. While our cases have been comparatively few the investigation of the family histories certainly revealed that each child sprung from a decidedly faulty and neurotic ancestry. We found insanity, epilepsy, alcoholism and syphilis, as well as tuberculosis in one or the other of the family histories and not one but had either one or both parents subnormal or neuropathic.

While the cretinic children themselves, if taken early enough, will improve wonderfully under the judicious administration of thyroid, I have not personally come in contact with such a child who was thus restored to normality—especially insofar as mental condition was concerned. The majority of our cretins have entered when close to puberty or even later than that period. These children have all been treated with standard preparations of thyroid, two of our most pronounced cases, aged 24 years and 44 years, respectively, being constantly under this treatment for three years. Nothing but the most superficial grade of either mental or physical improvement was noted. These children, who seem to be no longer susceptible to thyroid, test 3 years and 5 years, respectively, by the Binet intelligence scale. Another child who has received thyroid treatment since early infancy up to the age of 11 years showed at that time a pronounced impediment of speech with a retardation of three years in intelligence. It seems only a coincidence, but all of our five cases were girls.

Microcephaly.—The microcephalic type is one in which, of course, the name is derived from a single feature instead of a grouping, as in Mongolism. A consideration of microcephaly follows that of cretinism because we have been struck by the similarity of mental reactions in the two types as contrasted with the marked physical dissimilarities. Both kinds of children are reticent and modest to a degree before strangers, and yet quite gentle and affectionate with their attendants. They like exceedingly well to be praised and when only those with whom they are familiar are present they are very much at home, even to performing little acts, dance or mimicry, and feel highly appreciative at the applause elicited. They are quick-tempered, showing flashes of anger over trivial things, from which they soon recover their usual state of composure, however. And in general the traits and habits

of cretins and microcephalics run along in much the same channels.

The Binet examinations of the microcephalics have shown them to average about 4 years in intelligence age, though the range in years is wider than that of the Mongols. John is a boy who is a braggart and has innocent but exaggerated ideas about his ability—for instance, to write letters (these are illegible), or to perform prodigious amounts of work. He is quite jealous of his position as a dining-room helper and also thinks it undignified and unbecoming for him to accept additional work in other departments when emergencies arise. His head circumference measures $18\frac{1}{4}$ inches ($45\frac{5}{8}$ cm.), and contrary to the usual finding in microcephalics he articulates very well, though his phonation is somewhat raucous.

On the other hand, we have Alice, who is considerably under the one-year intelligence level, and is practically vegetative in her existence, requiring the same care as an infant. Her head circumference is $18\frac{1}{2}$ inches ($46\frac{1}{4}$ cm.)—somewhat larger than that of John.

Susie, who was our most striking case of microcephaly—head circumference measuring $14\frac{1}{2}$ inches ($36\frac{1}{4}$ cm.) and who died several years ago of pulmonary tuberculosis, could sing the chorus of "Just Break the News to Mother" fairly creditably. She was fond of little fineries in the way of dress and ornament. She was inclined to be headstrong in disposition and to order about other children who were of much higher intelligence than she, they acceding because Susie was a prime favorite.

What is meant to be emphasized is that the size of the brain does not necessarily influence the amount of intelligence in the microcephalic. In consulting our mortality records we find ample proof of their marked susceptibility to pulmonary tuberculosis, practically all cases dying of this malady before the 35th year of life.

The microcephalic type constitutes, according to our statistics, about 1.4 per cent. of the total population. We find faulty ancestry in practically all cases.

Insane Feeble-Minded.—Though this group can hardly be styled a "type," it forms so large a proportion of our population that it is hoped a brief reference to the subject will be pardoned. In my census of our insane cases those were included who, as they grew older, developed a terminal dementia, a state common to a good many of the older cases in institutions for the feeble-minded. In the count those were listed who had given evidence of a noticeable deteriora-

tion from their former level of intelligence. Such retrogression was found to exist varying from that of a mild degree of dementia to one of profound stupor. We noticed that the most rapid and striking examples were those appearing in conjunction with pulmonary tuberculosis, two cases of 11 years and 13 years, respectively, descending from the low grade moron group to the idiot level in the short period of three months. Less pronounced instances occurred with a number of other cases of phthisis, a disease to which the feeble-minded are particularly susceptible.

Of all those who gave undoubted insane reactions in one form or another the rather unexpected total of 11 per cent. of our whole population was found. This is more than double the figures given as an estimate for insanity in all ailments by the Royal Commission in England. The writer is unable to state whether or not their estimate included what he has pleased to call terminal dementia of the feeble-minded.

In grouping our cases of insane, 35 per cent. of the total is included in the terminal dementia group. An equal percentage is comprised by the dementia praecox forms, which far outnumber any of the other active varieties of the insane. Though we meet an occasional child who exhibits more or less catatonia the hebephrenic class is by far the more common; the paranoid forms under the group paranoic states, which furnish about 5 per cent of the total. The involuntional states, including melancholia, add another 4 per cent., while the greater part of the remaining cases are of the demented and maniacal forms of epileptic insanity. We have at present a little girl, aged 12 years, who is an excellent example of juvenile dementia paralytica. There has been no instance noted of what we could consider a pure manic depression among our children. This is a variety which must be rare among feeble-minded if our experience can be taken as a criterion.

The greater number of our insane children do not go to the extremes of either exaltation or depression such as do the ordinary insane. Once in a while we have a case who develops a tendency to do himself or those about him bodily harm, and for that reason is committed to some institution for the insane, but the majority are cared for as best we can, often giving but little trouble on account of their failure to show the more radical signs of insanity.

In closing this rather rambling paper I beg to be allowed to digress for a moment to comment on the lack of interest which the general practitioner of medicine exhibits toward the insane and the feeble-minded. By the most reliable

estimate we now have at least one out of every 300 persons who is insane. This is true also as regards the proportion for feeble-minded. It seems that the average physician feels disposed to regard the handling of these two classes as specialties, which indeed they are, but we must consider that great numbers are at large in the various communities, being totally without special care. In several ways they are a menace to public welfare and economy. As both insanity and feeble-mindedness are abnormal states that require supervision and correction, both for present needs and future betterment of conditions, it is the duty of medical men in general to study and learn more about abnormal mental states from the practical as well as the scientific side. Many of the admission papers accompanying cases to public institutions reveal a most woeful lack of knowledge about matters of psychiatry. Practically all of these unfortunates are disposed of by medical men and many errors are made in preliminary attention that could have been easily avoided. It is a big campaign of education along these lines for the public that is now on. The teachers and educators in this campaign must be prepared for their work. There is a live problem to be solved, having in it more elements medical than we have realized. It is a hard problem, too—not one that is going to be solved to-morrow, or next week, or next month, or next year. It is too big and broad and comprehensive for a mere handful of specialists to deal with properly. It requires concerted action from all of us who are concerned in the future welfare and conservation of the human race, not only physicians, but people from any and all walks of life, people who are imbued with a feeling of responsibility for the continued stability of our race. It is fine to think that each one of us can be an agent and a power in shaping the destiny of mankind, a destiny that really depends on our intelligent cooperation for the common good. Let us work just a little bit harder to take part in this labor of helping to mould a better standard of human life than we now have, a work which will stand as a monument to our farsightedness.

DISCUSSION ON THE PAPERS OF DRs. GODDARD AND CALDWELL

Dr. Carl W. Sawyer, the Sawyer Sanatorium, White Oaks Farm, Marion, Ohio: *Mr. Chairman*—I think we are particularly fortunate in having these two papers this evening, one of them dealing with the subject truly from a psychopathic side, and the other from a pathological side. Feeble-mindedness is one of the conditions which we have always had with us, and probably always will have with us; but within the past few years there have been some great strides

made, showing that the chances are that we will not have so much of it in the future as we have in the past—neither in the number of cases developing nor in the number of cases that come to the terminal stages. A long time ago these children used to be pushed aside if they did not show a certain amount of mentality—they were simply put aside and nothing done for them. I think that was when the state had not yet taken hold of the subject. I don't know just when the beginning of the pathological work commenced with these children. Of course one of the early strides that was made was when myxedema was picked out and that class of children set aside and treated. Next came the cretins that were helped.

My experience has been a little different from Dr. Caldwell's. I have seen several cases of cretinism that were helped by the thyroid extract, and if Dr. Harvey Cushing's recent work is of any value we know that we are going to be able to help some that we have not been able to help in the past, and help feeble-minded children by work along that line. I recently spent some time with Dr. Cushing, and am convinced that his work will open up great avenues in this field.

All of these feeble-minded children should first come into the hands of the doctor, because we know positively that a large number of the cases of feeble-mindedness are really sick children. We have all read in the papers of the remarkable cures of feeble-minded children who could not see well, and children who could not hear well, by treating these defects. As soon as these conditions of sight and hearing were helped they were made better. That is only a small percentage of the good that can be done in this way. Take the Mongolian—I believe there will be some kind of treatment found to help that type also—the cretins, the myxedema cases—they all belong on the pathological side and must be held as sick children and met by medical measures, or at least met by the doctor—not necessarily by surgical measures.

Then we must take, on the other hand, the children who come into the world defectives, with the small heads, the large heads, brains absolutely held back, who never will build up. Those cases must be taken, after it has been proved that nothing can be done for them from a surgical or medical standpoint, and be taught. Once in a while we find one who can be helped.

If any of you have read Dr. Goddard's work you will notice two things that he brings out very clearly, and I think they are of very great importance in these cases, on the teaching side, and that is, that you must not hope to make an all-around individual of one of these feeble-minded children. He says, you may make a very good bulldog out of a bulldog, but you never can make a pointer out of that dog—and so with these children. You must find in what way they can best be developed, and then in that way make members of society who can sustain themselves. Secondly, if a child shows the mentality of a child of 7, the chances are that you can never raise that child more than three years.

Day before yesterday, just before I left home, I had one of these children brought to me, and when I told the mother that, she felt absolutely hopeless about it, but when I explained this to her, which I believe to be the facts in the case, she saw the possibilities. I believe that these children to a great extent follow the rule, if I remember my arithmetic

correctly, of what we used to call the greatest common divisor. If we know that one individual has ten letters from the alphabet, another fifteen, and another twenty letters, and the other has the full twenty-six letters, we know that the individual who has the fifteen letters will be more able to make words and make a larger number of words and a greater variety and larger sentences than the individual with ten letters, and so the one with twenty will have greater ability than the one with fifteen, and the one with twenty-six will have the ability of a normal individual. That is the situation with these children, I believe. We have one child coming in with a mentality of three, another with the mentality of seven, and so on. As I have said, and Dr. Goddard says, we never can raise them more than a little above that, but we can teach them how to make more combinations with the few things they have. And that, I believe, is the salvation of the teaching of these children. If we leave them alone the child of 3 will never develop much more, because he never learns to combine the things he has; but if we help him by teaching him how to make more combinations, he will seem after a while to be a more normal individual. The same is true of the child of 7, who, after you show him all the possibilities, will seem nearly like a normal individual, very far above 7 years of age.

One other thing. I believe absolutely that the doctor should see these cases first, because I know of children who have been held back and made feeble-minded who in the beginning were not in any sense of the word feeble-minded. One case I saw this spring—the son of a doctor, a practicing physician, who understands general medicine as well as the average practitioner. He had three children in his family—two perfectly normal and the third one not. When the child had gotten up to 7 years of age the family found that he could not get along with the other two, one 10 and the other 4, and so he was sent to us as a feeble-minded child. It did not take us long after seeing him to realize that if he was feeble-minded he was an exceptional type. There was another thing in this case, that if he was feeble-minded, the degeneration which had occurred had also invaded other areas, especially the cerebellum and the motor areas in the cerebrum. We took the child and worked him out. We found that the reason why he was feeble-minded was because of an attack of Friedreich's ataxia. Because of this he could not handle himself as others, and could not stand up with the rest of them, and consequently he had to sit down and play differently. He had shown that he was exceptionally bright, because he realized his condition and did not try to do things which he could not do. This child was put on appropriate measures to meet the Friedreich's ataxia. I am glad to say that he is improving remarkably. Then he was put in the hands of a woman who cares for these children for us, and who puts them on Montessori work. It is interesting to see what can be done in this way. He had never been able to learn letters in five years of teaching, and his mother was at one time a schoolteacher. The child is now able to do a large number of things. Here was a child who was not feeble-minded, in any sense of the word. His brain is more alert, we find now, than the brain of a normal child, and if we put him in an environment where he can meet the conditions he is just as good and equal to any individual, and if we are able

to hold down the Friedreich's ataxia this youngster is going to make a perfectly capable individual mentally, and probably physically. And there, I believe, is one of the points where we fall down too often. We class the child as mentally deficient when really he is physically deficient.

Another child I saw just recently was of the Moron type. I did not see him until he was 11. Looking at him, he presented a pinched appearance, with marked pallor and a number of signs of degeneracy. His mother said these had existed all his life. She spoke to her family physician about him and he told her to wait and see. And there, I believe, is a great danger—waiting. I believe if that child had been taken early he could have been helped more.

So I think that we are very fortunate in having both sides of this proposition brought out to-night, because feeble-mindedness has drifted into two definite channels—the psychological or psychological side and the pathological side, and I think the pathological side comes first, and the doctor should see these children first.

Dr. A. M. Corwin, 15 East Washington street, Chicago: The two papers we have just listened to are certainly of great interest to the generalist and specialist even outside of the group of neurologists and psychiatrists. The gentleman who has just spoken brought out a point that was in my own mind, and that is the correlation between the psychology, the normal, and psychiatry, the abnormal. Physiology and pathology should work together in this field. The reader of the first paper laid somewhat definite emphasis on the intellect. We speak of the Moron, imbecile and idiot. The tests for these are very largely intellectual tests. Is it not likely that you gentlemen, as physicians and psychiatrists, are apt to lay too much emphasis on merely the intellectual side of the individual, and forget that he is also made up of will and of emotions and of conscience—the moral side? Whether the conscience be a separate function of the mind or whether it is a combination of intellect, will and emotions is not germane here. Consider the man, then, or the individual as four-sided—intellect, will, emotion and moral function—and you must concede that we must study these individuals as they come into the world and blossom or fail to blossom in perfection from these four sides, and not simply take up the intellect and say, because a man or individual is not bright, therefore he is feeble-minded. The prostitute, the criminal and other charges on society are defective in one or more of the soul functions. The last speaker has indicated in his discussion that the individual child may be wonderfully bright and yet be very lacking or unbalanced in the emotional side and be perhaps headstrong, over-developed on the side of the will.

It is a question whether the psychiatrist, neurologist and physician who study the child all the way up are interested in the sociological problems wrapped up in this great question. They should study him, as I said before, from all of these angles, in order to make a proper diagnosis of the case and to apply the proper treatment and make the proper prognosis. That feeble-mindedness is not on the increase or is on the increase, I am not able to say. Some of you say that it is, and some of you that it is not. But one thing is certain, as long as physicians take a back seat on the question of the morals of society—

the social evil, and fail to do their part in solving this primal question, into which syphilis enters, in the degeneration of the race; so long as alcohol has free rein in the community, just so long will this question of feeble-mindedness, idiocy, the Moron, and all the rest of the stages and varieties of defectives in mind and character, whether in intellect, emotion or will, be before us, and just so long will the ranks of these people be recruited beyond our ability to control them. If a conference of this sort has any duty, it seems to me that that duty is to go on record strongly against the influences that recruit this class of patients. Prevention is the call of the hour. Let us look after causes and seek to eradicate them while trying to care for the results.

Miss Clara Schmidt, 6022 Monroe avenue, Chicago: I want to correct a statement made by one of the speakers. He remarked that we have no means in the city of Chicago for the education of defective children in the schools. We now have forty-one such rooms in the city, and there are in these rooms something like 700 children who are found to be defectives to such an extent that they cannot carry on the work of the public school along with normal children. I have recently joined the Department of Child Study, and I would like to tell you a few things about getting these children started and getting the right things done for them. In the first place, the teachers in these subnormal rooms have not special training. They did some years ago start out to give these teachers a year of special training, and also give them an extra salary, in order to induce them to take up this work. After some teachers had taken their year off and gone into the work then they had to go on as before with no larger salary than the teachers who are doing the work in the normal grades. So that our first difficulty is in getting teachers who have any sort of understanding of the problems with which they are confronted. However, they are nevertheless doing wonderful work. We have ten of these rooms which have been created in the last six months. The other thirty-one have been in existence from one to ten years. Some of these teachers have, nevertheless, gone to work at their own expense to study their own problems, and so far as the intellectual training of the children is concerned many of them are doing some very fine work. They get children of all sorts—children of the upper grade, of the Moron group, down to the child who has not yet acquired language. We have these difficulties:—Most of these children come from the poor classes of society. They are most of them very much in need of medical care. They come into the Department of Child Study and get such physical examination as it is possible to give them there. It is determined whether or not they have sense defects (or other correctable physical defects) or are the victims of malnutrition, and as much of their history is obtained as is possible under the circumstances. Many of these children are in need of charity, in need of charitable medical treatment—many more than can be taken care of. The health department school nurses are very conscientious in trying to obtain it for them, but there are too many. There are not clinics enough to accommodate all these children and give them the careful care which they need. So that is another handicap.

The most serious difficulty for which we have no remedy is the poor home condition. We may get our child medically taken care of, his large tonsils

and adenoids removed, his vision corrected with glasses, and the mother advised by the nurse as to proper diet, but this, because of poverty and ignorance in the home, he cannot get. In spite of all these handicaps, however, the special teachers in the subnormal rooms are able to do much in the education of these children.

Dr. Anna Blount, Oak Park, Ill.: I would like to take the liberty of recommending to the reading of everyone here Dr. Goddard's splendid book on "The Kallikak Family." I think it is more interesting than any romance I have read in recent years. It traces the history of the antecedents on both sides of a high-grade Moron girl who was in the Vineland institution, and traces it back for six generations to pre-revolutionary days. It will well reward the time of study of any physician who may be interested in the subject of feeble-mindedness, and I think when you have read it you will be of the opinion that Dr. Goddard himself holds that the way to handle the question of the feeble-minded is not to breed them.

Dr. S. D. Wilgus, Kankakee, Ill.: As a state officer I just want to make a few brief statements, and ask Dr. Caldwell to make a statement in answer to one question based on the question of fact. In a mixed audience of this kind I think this point ought to be understood. In the first place (1) if one out of every 300 of the population is feeble-minded, that gives 20,000 in the State of Illinois. The second point which might be mentioned is (2) that a degenerate never is a progenitor of normal strain. The third point is (3) that heredity from such an individual may be similar—that is, the descendants may be degenerate in the same line, or they may be dissimilar—that is, the descendants may be insane, epileptics, alcoholics, or what not.

The question which I would like to ask Dr. Caldwell to answer in favor of this audience is what legal hold they have at Lincoln State Hospital on the 20,000 feeble-minded of the 20,000 of the state?

Dr. C. B. Caldwell, Lincoln, Ill. (closing): Dr. Corwin inquired why it was that in the mental examination of these children the Binet system, which had to do only with intelligence, was considered and the other mental attributes, such as will, emotion, etc., were omitted. Work is being done at the present time which will involve tests and observations on the subject of learning and memory; feelings, interests, instincts, temperament and attitude; self and social relations and all other qualities of the mind. These things *are* being considered. So far intelligence is the only one in which more or less definite and accurate measurements can be made and for this reason the Binet Scale assumes the importance it now holds. Intelligence is a function of all other mental attributes and its measurement makes about the best single means we now have of gauging mind.

Dr. Butler made the statement that he and his assistants were often in a quandary what to do with a feeble-minded patient. He said that occasionally a child who was obviously subnormal came before his clinic, and if an epileptic or a decided idiot he was sent to Lincoln. It would be interesting to know just what system he uses in picking out cases to be sent to Lincoln. While there are a great many epileptics in the Lincoln State School and Colony, it is not necessarily an institution for epileptics; in fact, it was created by a legislative act to educate these children. This is what we are endeavoring to do, and

I would advise that the doctor occasionally send one of his improvable cases to Lincoln. If he is in a quandary about what to do with such cases and is really sincere about their welfare, he is a man we need in the movement for the betterment of the feeble-minded. Dr. Butler spoke about the handling or treatment of defectives which, of course, is a subject in itself and was not meant to be comprehended in the scope of this paper. I am interested to know that the lady who is doing work with subnormal children in the Chicago public schools corrected Dr. Butler's idea that there were two rooms devoted to the care of this class and informed him that, instead, there were forty-one rooms for this purpose.

Dr. Wilgus has asked if the state institution of Illinois has a definite hold on these children. In reply to this I will say that there is no commitment law on the Illinois statute which governs this point. Occasionally a judge from one of the county courts commits a child to the Lincoln State School and Colony, but his doing so constitutes simply a "bluff." There seems to be no insistent demand for a statute of this kind, and, consequently, things have been allowed to go on in an unsatisfactory way. As a rule the parents, who are most vitally interested in the children of our institution, are neurotic—probably as high as 80 per cent. of them. They come to us requesting that the child be released and we say, "Judge so and so committed this child here. You will have to get an order from his court before we will release the child." That is done simply to protect the child from the world at large and is also simply a "bluff." Once in a while a parent gets out a writ of habeas corpus and, of course, we surrender the child.

Dr. Moyer has asked if a normal child may be born to feeble-minded parents. This could not possibly be.

THE PSYCHOLOGIC CLINIC AS A EUGENIC AGENCY *

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Eugenics, in its efforts to guide and control the actions and condition of men in such a manner that the actions and condition of future men will reach a higher plane, calls for aid on all those who really know man, physically, mentally or socially. The naturalist, physician, psychologist, socialist, lawyer and statistician are all pressed into the service; each contributes something which the other is powerless to give.

The purpose of this article is to outline a very practical service which the psychologist can render at the present critical juncture in the effort to prevent the *increase* of the already appalling large feeble-minded population.

In my judgment there is no existing condition more menacing to the future of our race, no con-

dition which contributes more to the crime and vice of this generation and to degeneration in the next than the fact that there are an estimated 276,000 feeble-minded persons *unrestricted* and *unprotected* in the community, some 18,000 of them in Illinois.

The average citizen when he learns that institutions such as the Lincoln State School are duplicated in most sections of the country, and that altogether they care for about 24,000 helpless children, goes home with a feeling of horror that such conditions exist. The horror is mitigated, however, by a sense of satisfaction in that the state is so well performing its duty. He is not told that if the capacity of these institutions was increased *ten fold* there would still be feeble-minded on the outside. He is not told that the majority of those on the outside force the state to care for them—not in institutions designed for the feeble-minded—but in prisons, reformatories and alms houses, to which they make their way again and again during their miserably inefficient careers.

The state recognizes the incapacity of the 24,000 and provides them with protection; the incapacity of the 276,000 it does not recognize, and these absolutely irresponsible individuals are allowed liberty to do their worst and are then punished with the penalties designed for normal offenders.

As a result, penal statistics wherever collected, show that a large proportion of the criminal class are mentally unfit. The most extensive study of this kind is that offered in the Report of the Royal Commission on the Care and Control of the Feeble-Minded (1908). This Commission found that in some prisons, among them Holloway, Pentonville and Parkhurst, the proportion of feeble-minded was so large that the Prison Commission found it necessary to make special provision for their care and treatment. At Holloway, 39 of 803 women prisoners, and 56 of a total of 1,297 prisoners were feeble-minded. At Pentonville 18 per cent. of the prison population and 40 per cent. of the juvenile prisoners were feeble-minded. At Parkhurst there were 111 weak-minded, all but 35 of whom were recidivists; 2 had been committed over thirty times, 4 over twenty and 27 over ten times. At this prison a labor colony for weak-minded prisoners has been organized and cases from other prisons are received by transfer. In the State Criminal Lunatic Asylum at Broadmore 16 per cent. of the patients are reported as cases of congenital or infantile mental deficiency. In our own country the Elmira Reformatory reports

* Read at a meeting of alienists and neurologists, under the auspices of the Chicago Medical Society, June 23, 1913.

that 30 per cent. of 5,000 consecutive admissions were defective mentally, and the Bedford Reformatory that of 300 inmates, 44 were feeble-minded. Twenty-one of these women had brought into the world twenty-five children, all but three of them illegitimate. Reports from poor farms and alms houses reveal these institutions as refuges for those feeble-minded who escape the prisons and reform schools.

The state thus actually supports these people during a great part of their lives, and allows them freedom to commit crime and bear children during the intervals. The state supports at great expense charitable and penal institutions, partially for the purpose of protecting the community from its weaker members, and fails utterly to secure this end. It fails because the feeble-minded quota of its prison, reformatory and poor farm charges are incapable of learning to care for themselves in the community. These people are, of course, not the lowest type of feeble-minded whose total helplessness compels institution care, but the type whose deficiency only shows itself in response to careful tests or the actual stress of life. These people are not vicious, they are merely rudderless, without ideals or motives to guide their actions in times of stress, and they yield at once to temptation and even to suggestion that does not tempt. Nothing can secure to them harmless and unharmed lives but segregation in suitable institutions.

The institutions for the feeble-minded are at the present time euthenic institutions merely. Even in this capacity they are inadequate, for, as already stated, their protection is offered to very few of the vast number who are in need of it. These institutions are, however, in position to assist the eugenic movement in a most vital way—*by totally and permanently segregating* their charges, and thus preventing further propagation from these feeble-minded stocks. Instead of performing this eugenic duty to humanity these institutions are absolutely *non-eugenic* in character. Like poorhouses, prisons and reformatories, they care for many of their charges only periodically, allowing them to return to their homes for short or long periods, and for all time if their guardians require it. The institutions keep them for a time, put them in good physical condition, and then send them forth (as Mr. McCullough says in reference to the pauper) with the benediction—"Be fruitful and multiply."

The extent of the evil can only be realized by those who know the great part heredity plays in the production of feeble-mindedness. During the

last few years the pedigrees of a large number of institution cases have been traced and published. The pedigrees have led to three conclusions: that a normal child never results from the union of two feeble-minded persons; that feeble-minded children frequently result when only one parent is feeble-minded, and that a normal person the child of a feeble-minded parent is capable of transmitting the feeble-minded taint.

Dr. H. H. Goddard, in his "Kallakak Family," reports a wonderful natural experiment in heredity. This family history states that a young man of good stock became the father by a feeble-minded girl, of an illegitimate feeble-minded son. This boy in turn married, and of his descendants, 486 have been traced, of whom 143 are feeble-minded, 46 normal and the remainder undetermined. The 143 feeble-minded individuals married into other families and altogether 1,146 persons have been recorded, of whom 262 are feeble-minded. The family-tree reeks with feeble-mindedness, epilepsy, alcoholism and criminality. The same young man of good stock who fathered this degenerate family later married a normal woman, and the descendants from this union have also been traced. Nowhere among them is there evidence of the feeble-minded taint.

In the Lincoln State School and Colony sixty-six families are represented by two or more children each; seven families by four each, twelve by three each, and forty-eight by two each. In many instances other members of these families are being cared for in the insane asylums, reform schools, prisons or poor-farms. There are at Lincoln four brothers, aged 7, 11, 14 and 17, all of whom rank four years in intelligence, and all of whom have the same mannerisms; there are twin girls, aged 23 years, who are practically identical in mental age, mannerisms and personal peculiarities; there are two brothers aged 23 and 13, respectively, neither of whom have passed the mental age of 1; there are two sisters aged 10 and 14, respectively, both of whom grade 7 years in intelligence. Most convincing of all, there are two sisters, aged 20 and 22, respectively, who, when very young, were adopted by different families and brought up in different parts of the country, each ignorant of the other's existence; finally both reached Lincoln, and in time some chance occurrence disclosed the fact of their relationship. These girls, in spite of absolutely different environmental influences during their early years, are almost identical in temperament, mannerisms and mental development, both grad-

ing exactly 9 years in intelligence and answering test questions in an identical manner.

Confronted with the facts that there exists among us an appallingly great multitude of feeble-minded individuals, unprotected and unrestrained, and that feeble-mindedness is an hereditary condition, it becomes the plain duty of society to segregate these feeble-minded individuals, for their own protection, the protection of the community, and above all for the prevention of the increase of feeble-mindedness in the next generation.

The first problem which arises when the task of segregation is met is the separation of the feeble-minded from the masses at an age early enough to save them both from exploitation and from the commission of evil. It is in the solution of this problem that the psychologic clinic offers its services.

The first psychologic clinic to be established in this country is that of the University of Pennsylvania, founded by Professor Lightner Witmer. Such a clinic is a laboratory for the study of individual children. It is a place where difficult children of all types are brought by parents or other interested persons, for the purpose of learning why they are developing differently from the average child. The clinic aims to diagnose the case, give a prognosis and advise as to the future handling. In order to reach such a thorough understanding of the child as will make this possible, the clinic utilizes all sciences, all agencies that can in any way contribute toward the examination and explanation of the child. Thorough physical, pedagogic and psychologic examinations are made, and the child's daily life, its history and its heredity are investigated. The aim of all this complex examination is a purely psychologic one, the analysis of the mentality of the child and the discovery of the source of its peculiarities, but so intimately is the intellectual life of the child related to his physical condition and so intimately are both mental and physical conditions related to the environment, that adequate understanding of the psychologic factors can only be obtained in conjunction with a knowledge of the physical and social factors.

How far-reaching in its mental effect some seemingly slight physical defect may be would probably never have been so generally recognized had not emphasis been laid on it by the results of such well correlated physical and mental examinations. The case records on file at the clinic of the University of Pennsylvania show the intimate relation between physical defects

and mental retardation as no amount of ordinary statistics can; case after case showing improved mentality after the correction of eye defects, defects of hearing and defective nutrition, or after the removal of adenoids, tonsils or impacted teeth.

When a child shows remediable physical defects the clinic arranges for the indicated treatment, and final mental diagnosis is suspended until the child is physically able to make use of his natural endowment of mentality.

The final examination reveals the child as feeble-minded, merely retarded or normal, and on this diagnostic basis advice is given as to the future handling of the child. The psychologic clinic is in short a clearing house for atypical children, from which after such children are thoroughly studied and placed in their best possible physical condition, they are sent out each to fill its proper niche in life, some to institutions for the feeble-minded, some to reform schools, some to special classes for backward children and some back to the environment of the normal child.

As an orthogenic agency the psychologic clinic has long been recognized. The attempt to develop the atypical child has proved futile unless such attempt is based on an adequate understanding of the mentality of the individual child, such an understanding as the mental analysis made at the psychologic clinic makes possible.

As an engenic agency, however, the psychologic clinic is not yet recognized, although the urgent necessity for such assistance as it is equipped and ready to give is recognized by many. We have seen that the first step toward segregation of the feeble-minded demands that the defective child be separated from the normal group at an early age. With such a tool as the psychologic clinic at hand there need be no difficulty about identifying them. By the cooperation of psychologic clinics with public school systems, the feeble-minded could be separated from the rising generation before they reach the age when exploitation is possible. If in any community where education is compulsory all children who show retardation by the age of ten be submitted to a psychologic examination, the feeble-minded will be easily identified.

Moreover here in Illinois our charitable work is so well centralized that it is perfectly feasible, with but a slight change of procedure, to identify and properly care for many of the older floating feeble-minded population. We have two reform schools, an institution for the care of the feeble-minded, a school for the blind, a school for the

deaf and an orphan's home, all under the jurisdiction of one board. It has been my privilege to spend some time in each of these institutions for the purpose of studying conditions, and I found feeble-minded in each and all. Geneva has such a large quota that the efforts of education and reform in that institution are seriously handicapped. A very few of these girls are transferred to Lincoln, but the majority are sent back into the community at 21. The same condition exists, though not to so great an extent, at St. Charles and at Normal.

If the state of Illinois would establish a state psychologic clinic and send to it for examination each applicant for admission to any of its institution schools, each applicant could be placed at once in the institution best suited to minister to his individual needs. Feeble-minded boys and girls would not then be sent back into the community which entrusted them to the care of the state reform schools, to live again the lives which lead to reform school or to prison.

The three eugenic measures, the vital need for which this paper seeks to emphasize, are:

1. The establishment of a legal commitment of feeble-minded persons to institutions for the feeble-minded, such commitment authorizing the permanent detention of such persons.

2. The establishment of psychologic clinics in connection with public school systems, and the routine examination by such clinic of every child who shows pedagogical retardation by the age of 10 years.

3. The establishment of a state psychologic clinic in connection with the state institution schools, for the purpose of examining and properly placing the applicants for admission to any of these state schools.

HOW OLD THE NEW IN MEDICINE AND SURGERY *

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It used to be the custom, not so long ago, to think that our ancestors of the olden time had accomplished so little that really it was too bad that they did not live to see our glorious time. We prided ourselves so much on our progress that we were almost inclined to think that there must be something lacking in the folks who went before us for not having accomplished more. Their eyes must have been held, we felt, or their intelligences must have been darkened by some-

thing outside of themselves not to have seen more of the significance of things. As a consequence we were inclined to look around to all sorts of institutions, feudalism, scholasticism, religion, superstition as active in the suppression of human progress and the darkening of intelligence in the older time.

A change has come over our point of view in this matter in recent years. We have become more interested in painting, architecture, sculpture than in the past and the consequence has been that we have come to recognize that the older generations which we were inclined to despise had precious interests and made accomplishments that we are only just coming to emulate. When we were not interested in these artistic things ourselves we could not understand why they failed to be interested in the things that occupied us, but now we find that when we want to do something really worth while and that represents an enduring expression of beauty we must go back and imitate what they did and we are quite well satisfied to imitate with reasonable success.

It is rather amusing to hear people talk about progress in our time and about the wonderful advances that men have made and about evolution and to have the laureate's expression.

"We are the heirs of all the ages in the foremost files of time," quoted as if since we have the accumulations of the past and must have added something of our own, therefore, we must be far ahead of them. It takes only a little serious consideration to make us realize the utter futility of any such state of mind. Our painters are not capable of doing anything like as good work as those of a number of periods in the past. Our sculptors are quite willing to acknowledge their mediocrity. There is not a new idea in architecture in four hundred years. The nearest thing to a new idea in architecture is what the Spanish-American monks did for us on the Pacific Coast some two hundred years ago, but that is only a fine combination of older ideas. As for literature it would be a joke to talk about our generation as in any way progressive and least of all ahead of the past. Our poets and prose writers are quite willing to acknowledge their inferiority. Indeed our poets are such minor poets that the less said about them the better. Our dramatic literature is literally a farce. More plays were put on the stage—and made money—in the nineteenth century than in any other century of human existence, but there is probably not a single play written in the nineteenth century, that is expected to keep the

* Read before Chicago Medical Society, April 23, 1913.

boards because of its literary quality. We occasionally repeat one in order that an old actor may enjoy the opportunity to play youthful success or that a young actor may have the feeling of doing something his forbears did, but that is all. For plays that live we go back to the seventeenth and sixteenth centuries.

We have come to recognize now that we cherished some mistaken notions with regard to the accomplishments of the past mainly because our own interests were so narrow. We are still quite sure, however, that in certain departments, notably in science and above all in applications of science, we are doing some wonderful work that the world has never before even thought of and that this shows the marvelous progress of humanity. It might be well for us to realize the possibility at least of ignorance of the past, in this, just as in the previous state of mind being accountable for this also. Certainly anyone who thinks that the eyes of the past were held in the matter of science and its applications, or in what concerns observation and experiment, is quite mistaken. It is just a question of not knowing enough that permits anyone to hold such an opinion.

If we think for a moment that they did not know how to apply the great principles of science to what they wished to accomplish then we are forgetting the monuments of the past that we have before us. There are bridges still standing over streams that become swollen torrents at certain seasons of the year which were built over five hundred years ago. Our railroad stations are magnificent examples of the size of our constructions, yet it must not be forgotten that even the largest of them is practically not so large as St. Peter's at Rome. The choir of the cathedral at Beauvais is 210 feet from the floor to the ceiling, a wonderful piece of construction that rivals any of our architectural work even with the facile steel of the modern time. Their bells, their casting of bronze statues, especially equestrian statues, their knowledge of pigments for glass making and for painting, all show how much of applied science there was in the old time. It is sometimes asked a little impatiently "why did not the people of the middle-ages look around them in the great book of Nature instead of occupying themselves with their dry-as-dust old books?" Nature study is supposed by many apparently to be new in the world. It is not thought to be new, however, by anyone who knows the poets of the olden time. Dante knows his nature with marvelous detail. He knows about the ants and their ways, the metamorphoses

of the insects, the habits of birds and beasts, and besides he has introduced descriptions of many scientific experiments into his great poem and he knew the science of his time better than any poet of our time knows our science. The amount of information that he has at command and uses, not to display his erudition, but to illuminate what he has to say about subjects that need such lighting from without, is simply marvelous.

When it comes to the question of the medical sciences our immediate forefathers were quite sure that here at least the past was quite neglectful, lacking in proper curiosity and depending on authority and not on observation. I sincerely wish that some of the people who talk of our time as one of observation and the old time as one of the following of authority would look around them now and ask themselves how many physicians in our time make any observations for themselves and what an immense proportion of them almost blindly follow the opinions of others. This has always been so. And it will always continue to be so. We cannot expect the immense majority of men to think for themselves. Indeed this very matter of depreciatory opinion with regard to the old times is due to a blind following of older authorities whose information was very incomplete and whose opinions were positive just in proportion to this lack of completeness of their information.

During the past twenty years we have had the advantage of the republication of a series of old text-books of medicine and surgery and the careful study of the work of some of the old medical schools and these have completely revolutionized our views with regard to medieval medicine and surgery. To take the single example of the school at Salerno, we have come to admire it as a fine development of medical education, making many accomplishments that ought to have endured, though surprisingly enough they did not. The most interesting feature of Salerno was its readiness to take teachers of all nationalities. We find men from Asia, from Africa, from Spain, as well as from various parts of Italy teach there. Students came from all over Europe. Patients also came from far and wide, attracted by the fame of the school. An English monarch and his son and various dukes in the north of France went down to Salerno to be treated. That journey was much farther than for us to go to Europe now.

The school deserved its wide reputation. When it began its work, Arabian medicine had introduced the system of treatment by prescriptions containing a large number of ingredients. Ori-

ental subtlety had somehow come to the conclusion that the more medicines you used the surer you were to benefit the patient. It was hoped that someone of the many ingredients would surely do good. Just how there was any assurance that the others would not do harm is not clear. We talk about gunshot prescriptions. In the older time they called them calendar prescriptions because there was as many ingredients in them as the list of days in the month, and the prescription looked like a sheet of a calendar or almanac.

Salerno modified all this and exalted particularly the natural modes of healing. Fewer medicines were used, and air, exercise and diet were made the basis of therapeutics. Salerno was particularly strong on diet, but hydrotherapy with hints now and then of various manipulative procedures reminding one of massage and some of our modern surgical system were in great vogue. While Salerno was doing this her rival at Montpellier was calling attention to the use of red light in small-pox and to the value of light generally as a curative agent as well as to the use of water internally and externally.

What Salerno is famous for particularly, however, is its surgery rather than its medicine. About the middle of the Thirteenth Century, the "Surgery of the Four Masters" was written, a text-book of surgery, not unlike the collaborations of the modern time. This text-book came to be used at Bologna and during the course of the next century its teachings bore fruit. A series of men, Theodoric, Hugo of Lucca, William of Salicet, Lanfranc, and then finally Guy de Chauliac, who had studied in Italy, wrote text-books of surgery which have been rendered easily available for study in recent years.

There is scarcely a phase of our modern progress in surgery that was not anticipated at this time. They operated on the skull for abscess and tumor of the brain; they operated on the thorax for pus and other fluids, and did all sorts of operations in the abdominal cavity. They were especially insistent on operations for the radical cure of hernia. The patient was placed in an exaggerated Trendelenberg position fastened to a slanting board with his head down so that the intestines might fall away from the site of operation, and various technical methods, such as the introduction of wire of various kinds, the application of sutures of all sorts of texture and various modes of sewing up the tissues were suggested as likely to prevent the recurrence of the hernia. They did not believe that every hernia should be operated on and they discussed

this very wisely, but they did insist that operation in a good many cases would save great discomfort and avoid serious risk.

Of course, the thought that comes at once on hearing this is that it would be impossible to perform such extensive operations, requiring so much time, without an anesthetic. As a matter of fact, they had various forms of anesthesia and used a number of substances apparently with good success in producing insensibility to pain. The principal narcotics were wine, opium and mandragora in combinations, and they seem to have systematized the use of these rather well. A number of poets of the olden time talk of "the mercies of old surgeons," who put their patients to sleep before operating on them. Tom Middleton, our seventeenth century English poet, is an example, but somehow this development seems to have been missed to a great extent in the ordinary histories of medicine. We know now all about the use of these anesthetics and one of them was applied by inhalation, a tincture of opium and mandragora being allowed to dry on a sponge and this being placed in hot water and the patient allowed to breathe the steam from it.

Such extensive operations would surely be followed by very high mortality without antisepsis. While of course they did not understand the principles on which our modern antisepsis was established by Lister, they did have and used with excellent success one antiseptic at least. This was strong wine, which they poured over their wounds and applied on the dressings. This is an excellent antiseptic familiar even in scripture times, and it is not surprising that these old surgeons could boast of getting union by first intention, indeed it is to them that we owe the expression *per primam intentionem*, which derives any meaning that it has for us in the modern languages from its Latin significance. They even went farther, however, and insisted that surgeons whose wounds only healed after suppuration had made a mistake in their mode of operating, that is, of course, if they had operated through a previously unbroken skin surface.

There are various bits of technic employed by these old surgeons that are very interesting as anticipations of what we are likely to think of as modern inventions. In operating on wounds of the intestines they emphasized very strongly the fact that if the intestine was wounded and not sewn up the patient would surely die. They invented various needle holders and suggested technical aids to secure proper union. In large wounds of the large intestine particularly it was suggested by Hugo von Pfohlspundt in the

fifteenth century that the intestine should be completely divided and then the ends brought together over a metal tube with flanges. In this way the intestinal ends were kept in contact until agglutination took place and leakage was prevented. Pfohlsprundt declared that many of his patients had lived for years after such operations and he seems to have been quite secure about the ultimate passage of the metal tube. This anticipation of the Murphy button is probably of special interest here in Chicago.

A predecessor of Pfohlsprundt's, however, made what seems to me at least, perhaps because of my lack of surgical experience, a better suggestion. He removed the trachea from animals and used this as the tube over which the intestines were fastened and declared that the cartilage was stiff enough to maintain the intestines in such a position as would prevent leakage until agglutination took place, but then it would be gradually disintegrated by the juices of the intestinal tract and thus disposed of. This disintegration, however, would be delayed for a sufficiently long time to secure the safety of the patient.

Such anticipations of our modern inventions seem almost impossible to us, but that is because of the foolish notions we have cherished as regards the lack of practicalness of these men of the olden time. Let us not forget, however, that the brothers of the physicians who were making these fine technical advances in medicine were building bridges, inventing locks for canals, erecting cathedrals and town halls, making the most wonderful stained glass in the world, doing wonderful work in all the arts and crafts that we are now learning to admire and beginning to imitate, and that, of course, it is not to be supposed that only the fools of the families studied medicine and that those who took up our glorious profession were incapable of accomplishing at least as good work in what may be called the craft side of medicine as their brothers were doing in other departments.

It is indeed hard to understand how we should have come to accept this foolish notion of the men before our time, in our own profession, proving deficient and lacking in anything like even common sense. Our self-complacency has simply carried us away and has been fostered by a number of side issues. For one thing a religious controversy has been allowed to creep into medicine. A case had to be made out against the old church after the so-called reformation and this was bolstered up by emphasizing in every possible way the presumed suppression of education and intellectual development. No

more trace of any such suppression is to be found than occurs at the hands of any conservative body of men at the present time when there is a question of novelty, but the old church's influence was supposed to be eminently destructive of anything and everything that led to progress. There is literally no truth in this at all, but our medical history has been tinged with it until the republication of these old text-books shows us how utterly at fault were our previous notions.

Of course, the question of how these discoveries were made and then subsequently lost, is a mystery. This is, however, the constantly recurring mystery of history. We find no trace of anything like regular progress upward, but many evidences of discoveries being made and then lost. The Suez Canal was opened before our time and allowed to close. America was discovered several times—we have documents from the thirteenth century relating to missions on the Labrador coast, which might have meant anything as far south as Massachusetts, and abundant references to Greenland. Evidence in the old tombs in Egypt seems to show that steam carriages were used there a considerable time before Christ (see *Scribner's* for February, 1913) and there are any number of lost arts of which Wendell Phillips used to tell us, so eloquently which will surely be found again and constitute further examples of these losses and recoveries.

The ligature has been invented and reinvented many times in the history of surgery. It is easy to understand why. When ligatures are made of new fresh material and are applied in new clean hospitals they work beautifully. Whenever septic conditions intervened, then they worked irretrievable damage. Secondary hemorrhage was so common from their use under septic conditions that no wonder surgeons looked around for other modes of stopping bleeding. When an artery the size of the radial would begin to bleed in secondary hemorrhage because of the coming away of a septic ligature the patient would be dead from the furious bleeding before anything could be done for him. After a few such experiences, that would be the end of the use of the ligature for several generations. When it was invented again, however, the discoverer knew nothing about its previous use. Hot knives, hot pincers, torsion, everything would be had recourse to in the meantime.

It is harder to understand the rise and fall of interest in the specialities in medicine. We are sometimes inclined to think of this as the first great era of specialism, but we do so only when we are ignorant of the past. In Egypt, between

600 and 1,000 years before Christ, some thirty-six specialties developed, and Herodotus tells us that there came to be many complaints that the field of treatment of each of these specialties was too narrow and the patient often as a consequence suffered. Apparently each specialist found the seat of the patient's ailment in his own department. We have gotten far beyond that in our development of specialties, but it is just as well for us to realize that this curious complaint of the specialist was heard nearly 3,000 years ago. Unfortunately our hints of medical history do not go back much more than 6,000 years, or we would surely have complaints in previous periods.

As I have said, specialties developed at many times in the history of medicine. The treatment of the eye for cataract was particularly developed at a number of periods. A generation that will perform cataract operation may confidently be expected to do almost anything on the eye and tear duct operations and other surgical intervention in the eye was not uncommon. The throat and nose specialty was rather well developed at several periods, and men insisted on the necessity for clear breathing space through the nose and on the removal of polyps and the straightening of the septum and other things of that kind.

Perhaps the greatest surprise is to be found in dentistry. This at least we are inclined to think of as new, but it is possible that there was an interesting development of dentistry in Egypt and we have specimens in museums in Italy from the old Etruscan tombs which show how far dentistry had gone in the sixth, seventh and even eighth centuries before Christ in central Italy. There is good bridge-work and the fastening in of loose teeth by gold bands and other phases of prosthetic dentistry. One of the laws of the Twelve Tables at Rome forbade the burying of gold with the corpse—they were protecting their gold reserve at Rome as we do now—unless it was fastened to the teeth. This law was made about 450 B. C., and shows how common must have been the use of gold for dental purposes in the mouth. We have specimens of crown work and many dental appliances. Martial laughs at the women who got so scared that their false teeth fell out and their false hair came down. I believe that it was he who originated the expression that he knew that a lady's teeth were her own because he knew that she had bought and paid for them.

During the middle ages dentistry developed again and Guy de Chauliac describes the filling of teeth, insisting that the cavity must be cleared out carefully and then washed out with wine before filling. Curiously enough, tin, which is

coming into use somewhat again for tooth stopping and which has the distinct advantage it is said of helping in the preservation of teeth in which it is present as a filling, was considerably used in the middle ages. Gold was quite commonly employed at this time. A well-known papal physician, John de Vigo, declared, however, that gold should be used only when people wanted it, because it was too conspicuous. Arculanus, John of Arcoli, developed dentistry in a scientific way in the fourteenth century, and Guerini, in his "History of Dentistry," has given a long chapter to his work.

In a word the new is much older than we have any idea of, as a rule, in medicine and surgery, as well as in the arts, literature and the crafts. It was only what we would expect quite naturally if we once dropped the fond self-complacency that makes us think that the people of other times than our own must have been fools. Among ignorant people, there is a tendency for those in any country to think of the inhabitants of any other countries as foolish, and even well-informed people often have the most curious notions of those distant from them in space, though particularly, of course, distant from them in time.

Perhaps the best illustration of the anticipation of our modern progress in medicine and surgery and at the same time the explanation for that anticipation is to be found in the development of medical education toward the end of the middle ages. About the middle of the thirteenth century, according to a law of Frederick II, promulgated for the Two Sicilies, as the South of Italy and Sicily proper were called, a student of medicine must have spent his three years at the university before he could take up the study of medicine and then was required to spend four years at medicine before he was given his degree of doctor. This allowed him to teach in the subordinate position, but did not permit him to practice. Before the license to practice would be issued he must have spent a year with a physician. This is the standard of medical education that we are trying to climb back to. We want men to have made their undergraduate work in the university and then require four years at medicine and a year of hospital work. There are very few colleges as yet, however, that insist on such requirements. Two generations ago all our medical schools in this country required but two years of study. A man was allowed to study medicine if he could write his name, and he did not have to write it very plainly, either. His two years of medical study so-called consisted

of two terms of four months each of ungraded lectures as a rule; that is, the students heard the same lectures each year. How we ever got down so low as that is hard to comprehend. There were many reasons. The chief one was that men were engaged in making money out of medical education. Whenever any form of education pays there is likely to be something wrong about it. Let us not forget, however, that the men who came out of these medical schools were often capable of thinking for themselves, making observations for themselves, and sometimes doing better work in their early years of practice than the men who are now able to answer so many questions, but who never think for themselves.

There is just one reason for this talk to you. I have been writing books about "Old Time Makers of Medicine" and "Education, How Old the New" and "Modern Progress and History," until it has come very poignantly to me that whenever the men of any generation or any country despise the men of any other time or any other place they are belittling themselves. We have a glorious history in medicine, six thousand years of professional work with many generations of thoughtful observers. Medicine has gone up and down in its achievement, but there has never been a century when someone has not been doing serious thinking and writing on medicine well worth preservation and containing good lessons for the after time.

Unfortunately, we have taken our history of medicine from all sorts of out-of-the-way sources. The books that were written and printed in the largest editions and therefore most frequently preserved for the after time, were often those on popular medicine. Popular medicine is always absurd. Suppose we were to be judged by our popular medicine. Suppose that the advertisements in our medical journals, to say nothing of the lay press, were to be preserved for some future generation to judge our medicine by. Suppose for instance that the family medical books of the present day were to be taken as representatives of what we thought about medicine in our time. It makes one fairly shudder to think what succeeding generations would think of us. It would be quite bad enough to be judged by some of our supposedly scientific advances; the Brown-Séquard remedy for old age; opotherapeutics for the heart and the brain; some of the exaggerations of internal antisepsis; our abuse of the coal-tar products, and all the rest. We have judged the past unfortunately, largely by its popular books and by the foolish absurd notions in the therapeutics of our forefathers.

Professor Richet once said that the therapeutics of any generation was always absurd to the second succeeding generation. Are we going to be the first generation to violate the law? Perhaps so. I do not know, but I have my doubts. I know a little of the absurdities that have passed under my own eyes in the past twenty years while as a medical editor I have been keeping track of a wide field of so-called medical literature.

We live in glass houses and we must not throw stones. Above all we are professional men with a magnificent professional history of six thousand years. Let us not smirch our own nests, but learn to appreciate some of the great workers of the past. There is much to be learned from them, particularly from their mistakes, very often even from their absurdities and if we will only remember that they were men like ourselves, struggling with the deeper, more complex even than in our time, insoluble problems of the therapeutics of humanity, with insufficient knowledge though with the best good will in the world as a rule, we shall have a much better idea of the true history of medicine than can possibly be obtained from the cheap calumny of the past, because at places we happen to know only the side of it that lends itself to ridicule.

I have to thank you for your kind attention to this rambling talk and hope that it may prove suggestive enough to make you go back and study in the volumes that are now so readily available some of the genuine history of our dear old profession of medicine.

THE ILLINOIS COUNTY TUBERCULOSIS ACT

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In the August issue of this JOURNAL, Dr. Sachs described the Glackin law for the establishment and maintenance by cities and villages of tuberculosis sanatoria. This article does not speak of what would seem to be a much more important act for the same purpose passed by the legislature of 1909 and now in force. This consists of a very brief amendment to the statutes governing county administration and enables counties to establish and maintain such sanatoria. It will be readily appreciated that unless farming communities can be benefited by tuberculosis sanatoria, the larger part of our population will be excluded from such benefits. It is true also that

our cities are in nearly all cases heavily incumbered by municipal debt. Therefore it is more likely that counties will avail themselves of the law to maintain antituberculosis sanitaria. They are in much larger proportion free from debt. The property available for taxation in counties is much greater, so that the burden of maintenance will be more widely distributed and consequently less than if such burden fall only on the property of cities.

It is found that up to date few cities have availed themselves of the benefit of this law. In the city of Peoria, where the referendum vote resulted in a large majority to erect a sanitarium, the city council found means to annul the desire of the people.

So far counties have not availed themselves of the benefits of this law. That such a law exists seems to be known by very few. All the members of our profession should be made familiar with its provisions, and a sentiment created in its favor. In McLean County the Board of Supervisors defeated the proposition in the face of a very strong pressure of a determined public sentiment. This defeat was due to the well-known fear of increased taxes, be the increase ever so small. It was noted at the time that supervisors from the cities of Bloomington and larger towns in the county voted for the sanitarium. Indeed, only five votes were required to secure it. It should be noted, however, that the sentiment in favor of these institutions is growing, and the time is coming when the need of them will be so apparent even to the average supervisor that he will give his vote.

It should be said in this connection that tuberculosis is just as prevalent in farming communities as it is in our cities, because the average farmer still persists in breathing canned air all the time he spends in bed and indoors.

The law to which reference is made will be found in Chapter 34 of the Statutes of 1909, under the head of "Counties," Section 24, Paragraph 5 and Section 25, Paragraph 9. It will also be found in the session laws for the year 1909, page 163. It reads as follows: "To cause to be erected, or otherwise provided and maintained, all suitable buildings for a sanitarium for the care and treatment of all persons suffering from tuberculosis who may be admitted to said sanitarium by, or under the direction of, said board, and to provide for the maintenance and management of the same." This provides for the admission of all, both rich and poor.

In view of the fact that so much publicity has been given to the Glackin law and so little pub-

licity to this apparently insignificant amendment to an existing law, it would seem to be well to place this matter also before the medical profession of our state in order that all may know about it.

The application of this law is very simple. The power is vested in the board of supervisors to purchase ground and to erect and maintain buildings without necessity for a special commission. All that is required is the intelligent cooperation of the community and the medical profession. If anything remains to be desired in connection with this law it should be an amendment, making it possible for two or more counties to unite in the maintenance of one sanitarium.

It must be quite evident to all intelligent thinkers on this subject that the city or the county as a unit for the establishment of these sanitaria is preferable to the state unit.

Thus it is true as Dr. Sachs says, "That the cities (and counties) of Illinois are in a position to comprehensively deal with their tuberculosis problems." It is up to the people led by the medical profession to act on the situation.

FRACTURES ABOUT THE ELBOW-JOINT *

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As fractures about the elbow-joint are the most common of all fractures in childhood, as the prognosis of such fractures, in most textbooks, is very bad, and as the elbow-joint is such a very important part of the arm, it will be readily seen that the subject assigned to me to-night is the most important of any dealing with fractures of the human skeleton.

Anatomy of the Lower End of Humerus.—The shaft of the humerus is a cylinder, flattened anteroposteriorly as it nears the elbow-joint, the articular end of the bone being another cylinder attached transversely to the front of the lower end of the humeral shaft. This anterior attachment of the articular end accounts for our being able to flex the forearm to such an acute angle while being able to extend it to only a little greater than a straight angle. The internal condyle is lower than the outer, thus in supination giving us an abduction of the forearm of about 5 degrees from the straight line. This, together

* Read at the Meeting of the Englewood Branch of the Chicago Medical Society, June 3, 1913.

with an abduction of an equal amount in the forearm itself, gives us the carrying angle, which is about 10 degrees. The end of the humerus is composed of the internal condyle and epitrochlea, the external condyle and epicondyle, the olecranon and coronoid fossae, the capitellum or radial articular surface and the trochlea or ulnar articular surface. The trochlea is concave from side to side and convex anteroposteriorly, giving a saddle joint, while the capitellum is spherical, giving a very shallow ball and socket joint.

Ligaments.—A capsular ligament surrounds the entire joint, reinforced at either side and in front by very heavy dense bands. The bands on the inner side (the internal lateral ligaments) arise from the epitrochlea, the posterior one passing back to the olecranon process, while the anterior one attaches to the coronoid process. The bands on the outer side (the external lateral ligaments) arise from the epicondyle and attach to the orbicular ligament of the head of the radius, anteriorly and posteriorly. The anterior band or ligament passes from the epitrochlea across the front of the joint to insert into the orbicular ligament of the head of the radius.

Limitations of Motion.—Flexion is limited by the interfering soft parts, tension on the posterior bands of the lateral ligaments and the coronoid process impinging against the humerus. Extension is limited by tension on the anterior capsule, the anterior bands of the lateral ligaments, tension on the overlying muscles, especially the brachialis anticus and biceps and the impinging of the olecranon process into its fossa. If motion is carried beyond the normal, either rupture of the ligaments with dislocation (in adults) or fracture (in children) occurs.

Development of the Bones About the Elbow.—At birth there is no bone in the ends of the humerus, ulna or radius. The first center of ossification to occur is in the capitellum, and is usually present at 6 months of age, always at 1 year. The center for the head of the radius appears at about 6 years, the epitrochlea at 6, the trochlea and olecranon at about 11 years, while the epicondyle center does not appear until about the twelfth year. These different centers of the humerus unite into one solid mass at about the fifteenth year, except the epitrochlea, which is delayed to the eighteenth or twentieth year.

Classification: Fractures of the Lower End of the Humerus.—The number of different kinds of fractures that may take place, due to the different combinations that may be formed, are

almost numberless. The usual classification given in the order of greatest frequency of occurrence is as follows:

1. Supracondylar (including diacondylar); 2, external condyle; 3, epitrochlear; 4, epiphyseal



Fig. 1.—Side view of most frequent type of supracondylar fracture.

separation; 5, internal condyle; 6, intercondylar T or Y; 7, trochlear; 8, epicondyle; 9, capitellar. (Illustrated with bones, x-ray pictures, etc.)

1. A supracondylar fracture (Fig. 1) passes across just above the epitrochlea and epicondyle



Fig. 2.—Diacondylar fracture.

and is outside the joint. Do not confuse this with a fracture of the lower end of the shaft of the humerus.

2. A diacondylar fracture (Fig. 2) passes across just above the epiphyseal line, but within the joint. It crosses the olecranon and coronoid fossae. If the lower fragment is displaced forward with a backward dislocation of the ulna and radius, it is known as a Posadas fracture.

3. In a fracture of the external condyle (Fig. 3) the line passes from above the epicondyle and enters the joint near the center of the trochlear surface.

4. An epitrochlear fracture is a separation of the epitrochlea at the epiphyseal line. It is probably common, but often unrecognized. It is outside of the joint.

5. A separation of the lower epiphysis. This may occur at any age up to the time of union to the shaft. It does not show in an x-ray picture unless there is some displacement.



Fig. 3.—Fracture of external condyle.

11. When there is excessive violence any combination of the above fractures may occur with dislocations, compounding, etc.

Mechanism of Fractures at the Elbow.—A fall on the outstretched hand transmits the force through the carpal bones to the radius, which in turn connects directly with the capitellum. The only force reaching the internal condyle being through the interosseous ligament between the radius and ulna (the fibers of this ligament run obliquely down from the radius to the ulna), hence the greater frequency of fractures of the external over the internal condyle. If to the above force you have hyperextension of the arm, exerting tension on the anterior part of the lateral ligaments and the anterior ligament, you get a supracondylar fracture; hence the greater preponderance of these two types of fracture.



Fig. 4.—Intercondylar ("T" or "Y") fracture.

6. A fracture of the internal condyle separates the entire inner part of the articular surface, the line of fracture entering the joint near its center and running almost straight up and down.

7. Intercondylar T or Y fractures (Fig. 4) are rare. They occur more frequently in adults than in children, and are like supracondylar fractures with the lower fragment split in two.

8. Fracture of the trochlea: this is an isolated detachment of the trochlea and is very rare.

9. Fracture of the epicondyle: usually occurs in the young and is an epiphyseal separation. Very rare.

10. Fracture of the capitellum: an isolated fracture of the capitellar surface and is also very rare.

A fall on the flexor surface of the forearm will also produce a supracondylar fracture. Due to the carrying angle, falls occur more often on the inner side of the forearm, putting greater tension on the internal lateral ligaments; hence the greater number of epitrochlear fractures over that of the epicondyle. In a fall on the extensor surface of the flexed forearm the force is applied almost entirely to the ulna and results in a fracture of the ulna with a forward dislocation of the head of the radius or a fracture of the internal condyle. If the arm is adducted so that the force is applied with an equal degree to both ulna and radius, a diacondylar fracture or an epiphyseal separation occurs.

A fall on the posterior surface of the acutely flexed elbow results in a fracture of either con-

dyle (as the arm is adducted or abducted), or if struck squarely a supracondylar fracture or a fracture of the lower end of the shaft of the humerus. Many fractures are the result of direct violence, the elbow being crushed between the falling body and the object struck (usually the floor or ground). This may produce any of the above-mentioned fractures, or as more frequently happens a comminuted fracture, which feels on palpation like the proverbial "bag of beans." From the above you will see the importance of getting, whenever possible, an accurate history as to just how the fall occurred to aid you in the diagnosis.

Taking up these fractures one at a time, we will start with the most common one, or

SUPRACONDYLAR

This fracture usually occurs in children under 16 years of age (adults get a dislocation unless the force is one of direct violence).

(a) Mechanism: It is produced by falls on the outstretched hand with hyperextension, by falling on the anterior surface of the forearm, for the same reasons (i. e., tension on the anterior lateral ligaments), or by striking the elbow directly with the forearm acutely flexed.

(b) Pathology: The line of fracture usually runs from behind downward and forward, with a backward and upward displacement of the lower fragment due to (1) the force producing the fracture; (2) the action of the triceps muscle pulling it up and back; and (3) the biceps and brachialis anticus muscles pulling the forearm upward. The line of fracture may run from behind upward and forward, when the lower fragment will be displaced forward and upward. The lower fragment is flexed on the forearm, due to the forearm muscles that attach to the epicondyle and epitrochlea. The periosteum is not often torn through in the back, but it is stripped from the upper fragment sometimes 3 or 4 inches. If reduction does not take place early, this subperiosteal space becomes filled with blood, organizes and later prevents reduction.

(c) Symptoms: Besides the symptoms common to all fractures, pain tenderness, swelling and disability of motion, there are:

1. Deformity resembling a posterior dislocation but higher up, and the condyles are dislocated backward with the forearm—the swelling may be too great to determine the latter. You may be able to feel the lower end of the upper fragment in the anterior fold of the elbow.

2. Crepitus: This can always be felt unless there is impaction. Elicit crepitus by a back-

and-forth motion, by flexion and extension or by a rotary motion of the forearm. Do not manipulate more than is necessary to elicit this crepitus once, because of the danger of increasing the injury to the soft parts.

3. False point of motion: By grasping the arm with one hand and the extended forearm with the other, adduction and abduction may be readily produced.

(d) Treatment: The treatment is accurate reduction of the displaced fragments with retention. If there is impaction it will first be necessary to hyperextend the arm, often requiring considerable force, but never more than just enough to loosen the fragments because of the danger of forcing the lower end of the upper fragment through the blood-vessels and soft tissues in front. After the lower fragment is so loosened grasp the arm with both hands, the thumbs pressing forward on the back of the lower fragment, while the assistant makes traction on the extended forearm and gradually, but gently force the lower fragment into place. Next flex the forearm on the arm, care being taken not to rotate the forearm on its long axis, an inward rotation producing a cubitus varus, while an outward rotation will produce a cubitus valgus, thus destroying or exaggerating the carrying angle. After reduction the problem is to retain it, which I believe is best done by the Jones' position, or, as Ashurst calls it, hyperflexion. This will be taken up more fully later on.

TRANSVERSE DIACONDYLAR

This is a fracture transversely across the humerus just above the epiphyseal line.

(a) Mechanism. It is nearly always produced by a fall on the extensor surface of the flexed forearm, the force being applied equally to the radius and ulna.

(b) Pathology. This fracture is within the joint, occasionally extending extracapsular at the inner or outer side. There is rarely any backward displacement, but nearly always a lateral one, either outward or inward, usually the latter, due to the force producing the fracture.

(c) Symptoms. The symptoms are similar to those of a supracondylar fracture. There is less swelling, usually no backward displacement, and crepitus is harder to detect.

(d) Treatment. This is the same as for a supracondylar fracture. As this fracture passes through the olecranon and coronoid fossae, you may get limitation of motion, due to new bone in the fossae.

EXTERNAL CONDYLE

A fracture with the line running from above the epicondyle downward and inward to about the middle of the joint.

(a) Mechanism. Due first to a fall on the outstretched hand without great hyperextension, so that the force is transmitted through the radius direct to the capitellum, with little or no tension on the anterior bands of the lateral ligaments; or second, it may be produced by direct violence, as falling and striking on the outer condyle with the forearm flexed.

(b) Pathology. This fracture enters the joint, the fragment including the capitellum, and usually the outer lip of the trochlea. In older children the line will pass higher up on the shaft. The fragment remains united to the head of the radius, and is usually rotated inward by the supinator muscles arising from the epicondyle.

(c) Symptoms. The swelling is localized to the outer side of the joint, lateral measurement showing a widening. You can usually grasp the fragment and move it on the shaft of the humerus, thus eliciting crepitus. The hand is pronated, the origin of the supinator muscles being torn off and the carrying angle is lessened or gone, due to a falling down of the fragment producing adduction of the forearm.

(d) Treatment. Unless the fragment has been completely rotated by the supinator muscles, it is easily reduced, first, by supinating and abducting the forearm to restore the carrying angle, then acutely flexing the forearm. These two motions are usually sufficient to force the fragment into place and hold it there. This position should be maintained for five or six weeks, very little or no passive motion instituted, and a long time given to recovery, six to twelve months. If the fragment is so rotated that it cannot be replaced or if no union occurs, as often happens, an operation should be performed and the fragment nailed into place.

EPITROCHLEA

This is a very common fracture (20 per cent. of all elbow fractures), and is an epiphyseal separation.

(a) Mechanism. It is caused first by direct violence as a fall on the inner side of the forearm, pulling it off by ligamentous tension, or second, by direct violence as striking on the acutely flexed elbow.

(b) Pathology. As aforesaid, it is an epiphyseal separation, often mistaken for a sprain,

and entirely outside of the joint. The fragment is displaced downward and forward.

(c) Symptoms. Characterized by local tenderness and swelling with a false point of motion and sometimes crepitus. There is usually pain on supination and full extension of the forearm.

(d) Treatment. Immobilization in flexion is all that is necessary. The result should be perfect.

EPIPHYSEAL SEPARATION

This lesion may occur at any age up to the time of union of the epiphysis to the shaft of the humerus, at about 15 years of age.

(a) Mechanism. Same as for diacondylar fracture.

(b) Pathology. The fragment is intra-articular; displacement is little or none, with little or no tearing of the capsule.

(c) Symptoms. They very much resemble a sprain with swelling, tenderness, sometimes a soft crepitus and with extreme pain on forced extension due to the pinching of the fragment. The x-ray is of no help unless there is displacement of the whole forearm.

(d) Treatment. Immobilization with splint or hyperflexion; the latter preferred, due to the greater comfort of the patient. The results are good if the condition is recognized and treated. There is seldom any interference with growth of the humerus from injury to the epiphyseal line.

INTERNAL CONDYLE

A rare fracture in childhood.

(a) Mechanism. It is caused (1) by a fall on the flexed forearm in such a position that the force is applied to the ulna alone; or (2) by direct violence, as a fall on the inner condyle with the arm acutely flexed; or (3) crushed between the falling body and the ground.

(b) Pathology. A fracture extending almost straight up and down from above the epitrochlea into the joint. It is one of the worst fractures of the elbow-joint, as the ulnar articulation is the principal part of this joint. The further the line of fracture extends toward the capitellum, the worse it becomes, as it leaves only the ball and socket joint of the radius for support, the forearm swinging freely in all directions. It is most often the result of direct violence, and injury to the ulnar nerve is very common and should be looked for before any attempt at reduction, to prevent being accused of having caused it during manipulation.

(c) Symptoms. Adduction of the forearm with loss of the carrying angle, the weight of the forearm forcing the fragment upward. Localized swelling, tenderness, crepitus, a movable inner condyle on the shaft of the humerus and a widening of the joint.

(d) Treatment. Here again hyperflexion gives the best result. Treated in the extended position the forearm tends to sag thus forcing the fragment upward while a right-angled splint allows the ulna to rise up to the level of the radius with the same disastrous results. After a careful replacement of the fragments fix the arm in hyperflexion. With any method cubitus varus is apt to occur. Personally, I believe there is a field here for the open operation and nailing the fragment to the shaft, unless for other reasons operation is contra-indicated.

INTERCONDYLAR T, Y OR V FRACTURE

(a) Mechanism. These fractures are usually due to direct violence. They are rare in children due to the elasticity of cartilage and the epiphyseal line offering less resistance. Gurlt holds that a supracondylar fracture is first produced, then the lower end of the shaft is driven into the fragment splitting it in two.

(b) Pathology. The line of fracture may be T-, Y- or V-shaped, or, in fact, almost any shape with very irregular fragments and splinters. There is much tearing of the soft parts; the ulnar, median or radial nerves may suffer and should be looked for on the first examination, and the blood-vessels may be torn across. These fractures are often compounded.

(c) Symptoms. There is an enormous amount of swelling and ecchymosis, pain and tenderness, a marked widening of the joint due to the shaft of the humerus usually lying between the lower fragments. There is crepitus and a flail-like motion of the forearm. An accurate diagnosis can only be made from an x-ray picture.

(d) Treatment. Operative treatment is here indicated more than in any other elbow fracture. An incision over the inner and outer sides of the arm allows you to inspect the ulnar and radial nerves, and at the same time fasten the fragments to the shaft with pegs, besides suturing the periosteum and surrounding soft tissues with chromicized catgut or tendon. Hyperflexion is here contra-indicated, except in a few very square T fractures. Of splints, a right-angled inner splint well padded, with a weight at the elbow, is probably the best. The results are apt to be very bad; a certain amount of deformity with

excessive callus and loss of motion is to be expected.

EPICONDYLE: A RARE FRACTURE

(a) Mechanism. It is due to direct violence.

(b) Pathology. It is outside of the joint, the fragment usually displaced forward, but sometimes backward.

(c) Symptoms. Local swelling, pain, and tenderness with pronation of the forearm. You may or may not get crepitus.

(d) Treatment. By pressing the fragment into place and immobilizing the joint.

FRACTURES OF THE TROCHLEAR AND CAPITELLAR ARTICULAR SURFACES

These are rare occurrences, and like loosened cartilages in the knee joint, seldom unite. They usually cause enough interference with the joint motion to necessitate removal, the ultimate result being good. This completes the fractures of the lower end of the humerus.



Fig. 5.—Fracture of olecranon.

OLECRANON FRACTURES (FIG. 5)

(a) Mechanism. They are usually caused by direct violence, but occasionally by muscle pull.

(b) Pathology. The line of fracture is usually at the narrowest part of the olecranon. If a subperiosteal fracture, there may be no displacement. A fracture with no displacement at first may become displaced later, due to a pulling on the upper fragment by the triceps muscle. There is usually no splintering. The upper fragment, when pulled up, is usually rotated outward.

(c) Symptoms. Pain, swelling and tenderness localized over the olecranon process with inability to extend the arm. If seen before much swelling takes place the fragments may be easily felt.

(d) Treatment. In young, healthy individuals, where there is separation of a finger's breadth or more, operative treatment with suturing or wiring should be the regular procedure providing this can be done within the first twenty-four hours. Late operations, i. e., several weeks after injury, are devoid of good results due to a shortening of the triceps. Where the separation is slight, in elderly people, or where for any reason there is contra-indication to operation, a long anterior splint with adhesive strips placed to hold the upper fragment down is the regular mode of procedure. After three weeks, if some union has taken place, an inner angular splint may be substituted, the straps still being maintained and the angle gradually lessened until at five weeks the arm may be brought nearly to a right angle, never beyond that. No active motion should be allowed for two months.

OLECRANON EPIPHYSEAL SEPARATION

This usually occurs under 15 years of age. The mechanism, pathology and symptomatology are about the same as in fracture, but less severe. The insertion of the triceps is not materially interfered with. The treatment is immobilization in a straight or slightly flexed position for a few weeks. Functional results are good, but the fragment often remains ununited.

RADIUS

Fractures near the elbow. They are divided into three groups.

1. Fractures of the neck within or below the annular ligament.

2. Fractures just below the head, but within the annular ligament. The head is usually split and there may be impaction.

3. Splitting of the head.

The first group is common with fracture of the ulna, the second group is the most frequent and equally common in adults and children, while the third group is especially apt to accompany backward dislocation of the elbow joint. The only positive symptoms are tenderness over the head of the radius and spasm of the muscles on rotation of the forearm, which does not occur in fractures of the humerus. There may be crepitus, widening of the head of the radius and, if a loose fragment, interference with flexion and extension.

Treatment. This varies with the type of fracture. If below the annular ligament restore the fragments and put the arm in hyperflexion. If across the neck or within the annular ligament the fragments are impacted or loose in the joint. If impacted, put up in a right-angled splint for three or four weeks. If the fragments are loose in the joint, operation with removal of fragments or excision of the head of the radius as seems best.

Complications that may arise with fractures about the elbow-joint:

1. Volkmann's ischemic contracture. This is an atrophy and shortening of the flexor muscles of the forearm and is usually due to too tight and prolonged bandaging.

2. Injury to nerves, especially the ulnar, but the median and radial may suffer. These nerves may be pinched, pierced by splinters of bone or torn in two. They should be looked for in every elbow fracture on the first examination.

3. Injury to blood-vessels. The median artery or vein may be torn across, in which case they must be cut down on and ligated at once.

4. Ununited fragments. This occurs most often in fractures of the external condyle. The treatment is to cut down and nail the loose piece to the shaft.

Treatment by the Jones' Position or Hyperflexion.—Aside from operative treatment which has been mentioned in connection with the various fractures, the use of a right-angled splint with a weight in certain intercondylar fractures and a straight splint in olecranon fractures, I believe the best method of treating all other fractures of the elbow to be Jones' position, or, as Ashurst calls it, hyperflexion. After having reduced the fracture and adjusted the fragments in the best possible position, the arm extended and under traction, flex the forearm as tightly as possible without shutting off the radial pulse. In flexing the forearm, keep up as much traction as possible, being careful not to rotate the forearm on its long axis or to let the fragments slip. Be sure the forearm is parallel with the shaft of the humerus. In this position the forearm acts as an anterior splint, while the tense triceps tendon acts as a posterior splint holding the fragments in place as though grasped in the palm of a hand. After the arm has been flexed, carefully sponge it with alcohol and place some talcum powder and a piece of gauze in the fold of the elbow. Do not forget to feel for the radial pulse. There are two methods of maintaining this position of hyperflexion: First, and the

oldest being a band of adhesive plaster passing about the wrist and upper arm to maintain flexion while a figure of eight swath bandage supports the whole arm. The objections to this method are the discomfort of the adhesive plaster on the skin and the danger of its upper edge cutting into the skin on the back of the arm. The second method is with the roller bandage, and so far as I know should be credited to Dr. Ashurst. With a roller bandage take several turns about the wrist, then a few turns about the hand to prevent swelling, return to the wrist, then pass the bandage around the arm as high up as possible, continuing these turns until the elbow is reached and covered in, then passing back to the wrist pass a few turns about the wrist and neck thus suspending the arm from the wrist. Do not fasten the arm to the chest and have the patient report any swelling of the fingers at once.

On the third or fourth day remove the bandage, maintaining the hyperflexion, sponge the elbow flexure and axilla with alcohol, dry and dust with powder, then reapply the bandage. After two weeks the hyperflexion may be gradually lessened until at the end of four weeks the arm may be carried in a large triangular sling, and at five weeks all dressings removed and movements encouraged. *Do not use forced passive motion.* Some will secure perfect motion in six weeks, while others will require, especially if there has been much contraction of the biceps, a year.

END RESULTS

Cotton says: "The supposed end results are often judged as they appear at the time the dressings are removed, at a time when they show up very badly and do not represent end results at all." The most serious end result is ankylosis, then in lessening degree the different grades of restriction of motion up to a mere loss of power of full extension and full flexion, which really does not hinder the functional use of the joint. Deformity as such is seldom disabling, although in marked degrees of gun-stock deformity the arm is usually weakened. A perfect result is one in which flexion is equal to the uninjured arm, extension of at least 180 degrees and a normal carrying angle.

The end results as reported by most authors show from 20 to 28 per cent. of perfect arms, the remainder showing some loss of flexion or extension or both, an increase or decrease of the carrying angle or a complete ankylosis. In a series of fifty-six cases treated by Ashurst in which he used the hyperflexion method, the end results

show a perfect arm in 81 per cent., with bad results in only 19 per cent. of his cases. Personally, I have treated nine cases of elbow fractures by hyperflexion, four diacondylar, two external condyles, one T or Y fracture, one epiphyseal separation and one epicondyle. All of these nine cases had a perfect functional result. One diacondylar did not regain full extension, while the two external condylar cases showed non-essential deformity in the way of bony nodules at the outer condyle.

SUMMARY

In summing up I would say:

1. Make an accurate diagnosis before attempting reduction; if it cannot be done without, get an x-ray picture.
2. Reduce the fracture as soon as possible; it prevents swelling of the soft parts and tends toward early bony union with a lessened amount of excessive callus. If swelling has already taken place so that a diagnosis is difficult or impossible without, get an x-ray picture and reduce at once.
3. Always give a general anesthetic, unless there is some definite contra-indication for it.
4. Get the fragments into the best possible position, then secure the arm by whatever method best holds them there.
5. Always take an x-ray picture after reduction, to be sure of results.

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EXPERIMENTAL STUDY OF INTESTINAL SUTURES *

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While assistant in the service of Dr. Riechter at Wesley Hospital, our attention was directed in several instances to the varying degree of reaction in the employment of different intestinal sutures. * Further investigation revealed the fact that in the hands of different operators a great variety of suture material was employed. One belief, however, seemed to be prevalent as borne out by clinical work, and that was that in order to ensure safety of results a fairly heavy suture was necessary, and as we were employing sutures of much finer texture with apparently good results, I undertook some experimental work

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along these lines at the suggestion of Dr. Richter, with a view to studying the varying degrees of reaction and strength in the more commonly used materials. The conclusions which I have to put before you then have been drawn from experimental work on thirty dogs with a study of the gross and microscopic findings, also ten dogs used for strength tests; and supplementing this, observations clinically of several cases in the human to which I will later call your attention.

Let us first consider a series of experiments dealing with the amount of reaction and effects of various intestinal sutures. In all of these experiments a longitudinal incision of about two inches in length was made in the small gut and this was repaired with the customary two layers of sutures. The operating was done in all instances under thoroughly surgical conditions and the same technic followed throughout. Nine varieties of suture materials were used as follows: Human hair; horse hair; linen, plain and paraffin; silk, Nos. 7 and 13; catgut, Nos. 00, 1 and 2. In this way we have been able to study not alone the effects of the commonly selected sutures, but also to study the results of the use of extremely fine and heavy materials. In ten dogs the abdomen was opened, observations made and the specimens removed at the end of twenty-four hours; in another ten at the end of forty-eight hours; and in the third ten at the end of ninety-six hours. Each dog was subjected to at least one kind of material, and in some instances two different kinds were used in the same animal. None of the animals died, and in none was there any marked degree of peritoneal infection.

As a matter of convenience, let us divide the work into three groups, viz., Experiments 1, 2 and 3; Experiment No. 1 dealing with the ten dogs in which the specimens were removed at the end of twenty-four hours; Experiment No. 2 with the ten dogs in which the specimens were removed at the end of forty-eight hours, and Experiment No. 3 with the ten dogs in which the specimens were removed at the end of ninety-six hours. In this way parallel studies can readily be made of the various sutures at stated intervals.

EXPERIMENT NO. 1

No. 1. The dog in which human hair was used presents on opening the abdomen the following: The peritoneal cavity is dry to a normal extent; the bowel at the side of the operation is entirely free from adhesions; in the immediate vicinity of the suture the line to the bowel is of a somewhat darker congested color. The line of suturing is intact and the lumen is patent.

No. 2. The dog in which 00 catgut was used presents the same picture, except that there was slightly more reaction at the point of suturing.

No. 3. This is also true of the animal in which horse hair was used.

No. 4. Catgut No. 0 presents clinically the same picture as No. 00 and horse hair.

No. 5. In the dog in which a fine black silk No. 7 was used there is the same gross picture.

No. 6. Here silk, No. 13, was employed, and in this dog we are confronted with some striking differences in the pathologic picture. The gut at the side of the incision is protected by a loop of omentum slightly adherent over the line of suture. The bowel is very dark and injected at this point, and noticeably more moist than in any of the preceding dogs. The lumen is patent, though not so large.

No. 7. Intestinal linen used for suturing, and the picture corresponds clinically with that of the preceding animal.

No. 8. Paraffin linen employed, and the reaction corresponds to that of No. 7.

No. 9. Here catgut No. 1 was used. The amount of reaction was grossly as in dogs Nos. 6, 7 and 8, the amount of inversion of the serous coats being still more pronounced.

No. 10. Here catgut No. 2 was used and a mass of omentum is adherent over the entire area of operation. The loop of gut at the point of repair is very noticeably constricted, though still patent. Its color is a dark red, and there is a most pronounced congestion; also a distinct seepage or leakage is evidenced at the various points of suture.

At this point we were impressed with two striking features in the results of the different sutures: First, that the degree of reaction, as evidenced by the adherence of omentum, the tendency to seepage and the congestion of the repair bowel was uniformly greater in the heavier than in the finer materials used as sutures; second, that hand in hand with the caliber of the sutures the constriction of the loop became greater. This, of course, is readily accounted for by the fact that with a heavy material a larger bite is necessary in order to approximate the two edges without their cutting through.

As to the varying amount of reaction. Since this uniformly increases with the size of the suture, and since it is in reality an effort on the part of nature to repair injury, one can only conclude that the larger the suture the greater the amount of damage inflicted. As confirmatory evidence, the microscopic picture was carefully studied; the section of gut extending several inches beyond the field of operation in each direction was removed, and, after cleansing with water, was filled with 50 per cent. alcohol, tied, and then immersed in the same for twenty-four hours; hence it was transferred to 70 per cent., 95 per cent. and absolute for the same period. Transverse paraffin sections were then cut and

stained with hematoxylin and eosin. A study of these clearly bears out the gross fact that the heavier the suture used, the greater is the amount of reaction, for in the section in which No. 2 catgut is used there is infinitely more cellular infiltration and a much greater inflation of serosa than in the human hair specimen.

EXPERIMENT NO. 2

Here sutures were allowed to remain for forty-eight hours, and the findings coincide with those of Experiment No. 1. Briefly, our experimental notes are as follows:

Dog No. 1, human hair: Abdominal cavity dry; line of approximation perfect; no adhesions.

Dog No. 2, 00 catgut: Abdominal cavity here also dry; no adhesions; approximation perfect.

Dog No. 3, horse hair: Gross picture the same as in the preceding.

Dog No. 4: No adhesions; abdominal cavity dry; line of suture intact.

Dog No. 5: Gross picture corresponds to No. 4.

Dog No. 6, silk No. 7: Loop of omentum slightly adherent over line of suture; bowel dark red and moist.

Dog No. 7: Intestinal linen; omentum adherent; bowel moist and dark red.

Dog No. 8, paraffin linen: Same as No. 7.

Dog No. 9, catgut No. 1: Bowel very congested; omentum adherent, and there is a distinct seepage; constriction is also more pronounced.

Dog No. 10, catgut No. 2: There is a noticeable peritoneal exudate; the adherence of omentum is greater; the constriction is very marked, and the bowel congested; the lumen, however, is patent.

In this group there is one point on which I wish to lay particular stress, and that is, that in Dogs Nos. 6, 7, 8, 9 and 10, in which the suturing material was uniformly heavy, the amount of seepage is distinctly greater than in Dogs Nos. 1, 2, 3, 4 and 5, where a fine suturing material was employed. Microscopically, the sections are in all important characteristics similar to those of Group 1.

EXPERIMENT NO. 3

In the third group of dogs we allowed the specimens to remain for ninety-six hours, in order that a more definite study as to the lasting effects of the various sutures might be made. The experimental notes read as follows:

Dog No. 1, human hair: Abdominal cavity dry; line of approximation perfect; no adhesions.

Dog No. 2, 00 catgut: Abdominal cavity here also dry; no adhesions; approximation perfect.

Dog No. 3, horse hair: Gross picture the same as in the preceding.

Dog No. 4: No adhesions; abdominal cavity dry; line of suture intact.

Dog No. 5: Gross picture corresponds to No. 4.

Dog No. 6, silk No. 7: Loop of omentum slightly adherent over the line of suture; bowel dark red and moist.

Dog No. 7, intestinal linen: omentum adherent; bowel moist and dark red.

Dog No. 8, paraffin linen: Same as No. 7.

Dog No. 9, catgut No. 1: Bowel very congested; omentum adherent, and there is a distinct seepage; constriction is also more pronounced.

Dog No. 10, catgut No. 2: There is a noticeable peritoneal exudate; the adherence of omentum is greater; the constriction is very marked, and the bowel congested; the lumen, however, is patent.

Here again one is impressed with the varying degree of reaction excited by the different materials. For example, whereas the bowel in Dog No. 1 is still entirely free, and the constriction occasioned by the suture very slight, and whereas the color of the bowel is practically normal, and there is no seepage; in Dog No. 10, on the other hand, there is a very firmly adherent mass of omentum over the repair loop; there is pronounced constriction and seepage to the extent of there being a noticeable exudate; also, the bowel is still quite congested. Although these two instances represent extremes, correspondingly the degree of reaction is seen to be progressive throughout. The microscopic findings were similar to those in the first two groups.

So much for the study of the varying degrees of reaction; now as to the strength of these different sutures as employed in the gastro-intestinal tract, with which Group No. 4 has to deal.

In this experiment ten dogs were used. They were subjected to identically the same procedure as were those in the experiments just discussed, except that in all these animals I have used at least two materials at different points, and in some as many as four. After the bowel had been sutured, the abdominal cavity was closed and the intestinal tract inflated under pressure by means of an ordinary blood-pressure apparatus with the manometer attached. In this way the amount of pressure could be easily and accurately recorded.

Each of the first eight dogs was treated in this manner, while in Nos. 9 and 10 a deviation was made, in that the sutured bowel was held immersed in water and the pressure then applied.

The results of these tests are to me, personally, quite remarkable, and are, I am sure, at great variance with popular conceptions. Our notes read as follows:

Dog No. 1, bowel sutured at two different points with human hair, returned to the abdomen and inflated. At a pressure of 294 mm. of mercury—almost as much as the manometer registers—the distal line of sutures

broke. Close examination revealed the fact that the strands of hair had actually given way, although none had cut out of the bowel wall.

Dog No. 2, fine black silk and 00 catgut at a pressure of 210 mm.; the line of catgut suturing burst, examination showing the catgut to have broken at the knot and also to have torn through the bowel at one point.

Dog No. 3: Horse hair tore through the bowel at 215 mm.

Dog No. 4, catgut No. 2 and intestinal linen: At a pressure of 164 mm. the catgut gave way; examination showed sutures to be intact, but torn through the bowel.

Dog No. 5, catgut No. 0 and paraffin linen: The bowel burst at the linen suture at 200 mm.; suture intact.

Dog No. 6, catgut No. 1: Tore through at 192 mm.

Dog No. 7, coarse silk: Tore through at 198 mm.

Dog No. 8, catgut No. 0: Suture broke at 215 mm. at point of knot.

Dogs Nos. 9 and 10: Pressure made with the sutured loop held in water; human hair broke at 187; No. 1 catgut tore through bowel at 101.

Before going further, let me emphasize two points: 1. That the pressure of 294 mm. withstood by the human hair is the equivalent of approximately 13 feet of water pressure; and 2, that the true strength of the heavy catgut was never determined, the gut being torn through before this point was reached, and that this point was more than 100 mm. below the point withstood by the human hair.

Now as to the interpretation of our results: First, concerning the amount of reaction, there is no question but that the ideal result is that in which there might be a perfect coaptation without reaction, and this we most nearly have approached using human hair as a suture. Since the amount of reaction is closely related to the amount of seepage and leakage, both of which are greater with the heavier sutures, we must conclude that the finer the suture the better the result.

From the results obtained in Group 4, there can be no doubt as to which suture is the strongest under the conditions existing, and the reason that human hair withstands such a tremendous pressure, whereas the heavy catgut invariably cuts through the bowel, can only lie in the fact that in the elastic, strong, submucous coat of the bowel, on which the strain falls, there is a minimum of damage, while the use of a heavy suture cuts the fibers here so as to rob the gut of its natural strength.

The idea of the fine suture really had its origin in the first gastro-enterostomy for pyloric stenosis in infancy, performed by Dr. Richter, I believe, some five years ago. In that case a coarse suture was used, and as the baby developed an intes-

tinal obstruction several months afterward, opportunity was afforded for a study of the results. The entire upper abdomen was filled by most extensive adhesions. In the nineteen similar cases which have been operated on since that time a fine silk suture has been used with good results, and no difficulty of technique. This led to the use of the same material in adults, and in one case a gunshot wound with five perforations, where the patient died from a postoperative pulmonary edema, we were able to study the results post mortem. On the fourth day the union in each instance was perfect; there were no adhesions, and no gross evidences of reaction.

These results are in perfect accord with the experimental work and lead to the following conclusions:

1. Safety of result lies not in the inherent strength of the suture, but rather in the perfection of approximation and minimum of reaction.

2. The ideal result is that in which a minimum of reaction is attained.

3. From a clinical standpoint the suture of choice is that which is of a fine texture, readily prepared and the finest that can be conveniently employed by an individual operator.

In looking over the literature, I have not been able to find any work bearing directly on this subject.

F. G. Cornell, in an article entitled, "Capillary Intestinal Sutures," was able to prove that in the heavier silk and linen sutures capillarity or seepage was greater than in the finer; also that a lax suture had more capillarity than a taut, and a wet more than a dry. The catgut sutures showed very little capillary action.

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DISCUSSION

Dr. William R. Cubbins of Chicago: *Mr. Chairman:* This paper is extremely interesting to me, because I had believed that it made very little difference as to the suture material, and I have been very much instructed.

In suturing a great many intestines in dogs, and in the operative surgery which I have had a chance to do, it has occurred to me that it has been necessary to take a very much larger bite with the needle with a large thread than it is with a small thread. That seems queer, but the comparison is made instantaneously and is made subconsciously. With a large suture you unquestionably and undoubtedly will take a larger bite than with a small suture.

I wish to compliment Dr. Courtenay on this work, and assure him that I shall certainly use it in my future operative surgery.

Dr. H. M. Richter, of Chicago: A marked traumatic inflammatory reaction, with extensive adhesions

to neighboring bowel and omentum, are unnecessary accompaniments of intestinal suturing. They are particularly likely to occur when coarse suture material is used, with the accompanying seepage and traumatism to the tissues sutured. The use of fine suture material, such as that mentioned, has for some years seemed to me a logical step in the development of the technic which Dr. Courtenay described, and one that I carried out clinically, as he stated. Surely both the clinical work and the very positive results of the experimental work of Dr. Courtenay speak for the feasibility of carrying out the technic. It is true that such extremely fine suture material will not stand rough handling; but one should not be careless or rough in surgery.

Dr. Courtenay (closing the discussion): I want to thank Dr. Cubbins and Dr. Richter. I want to bring out one point in the clinical application of this work. Recently I had occasion in Dr. Schroeder's clinic to do a gastroenterostomy on a young woman, and in this case I used the finest silk and only put in one layer of sutures, with no reinforcing suture, as even Dr. Richter has been in the habit of doing. I knew from my experimental work that one need not worry in the least about complications from this point. This particular patient, two or three days after the operation, developed a pneumonia. After her pneumonia she developed a pericarditis. She developed also a most severe sepsis. Beginning on the afternoon of the operation, I fed that patient liquids as she wanted them. As soon as her pneumonia developed, she commenced to rapidly run down, and it became necessary to nourish her. We fed her copiously, with no bad results..

I want to emphasize the point that there is no need whatsoever to worry as to the safety of the fine suture material.

HEMORRHAGE IN THE NEW-BORN *

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That this subject is creating a vast amount of interest in the medical world is manifested by the large amount of literature written and the number of case reports in the last three years. From Abt's paper in 1903 and P. E. Weil's in 1905, until Welch's in 1910, the subject lay dormant while work was being done to solve the difficult problems which were confronted by the men interested in this work. Welch's paper opened the gateway to the solution of the problem of treatment and thereon interest was greatly renewed, especially in this country. This interest has had the good effect of popularizing the new ideas and should be kept up, as it will be the

means of saving hundreds of new-born infants who heretofore were doomed. Abt classifies this topic into two parts: traumatic and accidental hemorrhage and spontaneous. The first are due to injuries received in childbirth, such as application of forceps, causing intracranial bleeding. Spencer believes this to be quite a common cause; rupture of vessels in breech extractions wherever great force is put on the parts or injury to mouth in bringing aftercoming head. Circumcision has often uncovered a hemophilic baby, or where infection takes place persistent bleeding will occur. I have heard of cases of tongue-tie, division of which caused bleeding of a severe type and one where death followed. The spontaneous cases are without a history of any injury and we have the bleeding from almost every part of the body—head, mouth, gums, bowel, navel, under the skin, vagina, conjunctiva, etc. The bleeding can be very severe and steady or intermittent, with a large or small amount lost or a slow constant oozing. In many cases it was a constant light or moderately heavy hemorrhage, and I am inclined to think that this is the rule from my own observations and that of many other men. Very seldom, if ever, is there any immense quantity of blood loss at the beginning of an attack. It is hard to define hemorrhage in any instance, particularly when combined with shock, and that element present itself in some of these cases. Some babies can lose considerable blood and not show much ill effect, while in others a little oozing seems to make them very ill; and again in these cases the external bleeding may and is at times only a very small part of the real hemorrhage that is going on where it cannot be observed, as in the lungs or liver. The following cases have been outlined mainly with regard to etiology and treatment, and where the author fully believes that the treatment instituted was really needed, and where it was used as a cure and not as a prophylactic measure.

CASE 1.—Baby G., circumcised on eighth day, usual operation with careful hemostasis. Baby apparently healthy. Parents both healthy. Next day after operation baby commenced bleeding, not very much, but enough to saturate dressings and come through diaper; more sutures inserted and local applications, but bleeding continued. Third day child was given three doses of human serum, 25 c.c., 15 c.c. and 25 c.c., at five-hour intervals. The father was the donor of blood. Blood was taken from maternal grandfather, and on fourth day was given 40 c.c. in two doses. Salt solution was given per rectum and local treatment continued. Personally donated blood and on sixth day child was given two doses of serum of 10 and 15 c.c.,

* Read at the Sixty-Third Annual Meeting of the Illinois State Medical Society, at Peoria, May 22, 1913.

one dose at 8 a. m. and one at 12 m. No bleeding after 4:30 p. m. that day, and child is well at this time. During the hemorrhage child gained 10 ounces in weight, but was dangerously ill, very pale and anemic. This case would have resulted seriously without the use of serum, as the coagulability of blood was below normal, taking from thirty to forty minutes to clot. The etiology of this case is in doubt. There was no apparent infection at the site of operation.

CASE 2. Baby P. Ritualistic circumcision on eighth day, at 10 a. m. No suturing. Child bled profusely. Child arrived at hospital at 7 p. m. He was very pale and looked quite ill and was still bleeding considerably. An injection of whole blood was given at once and more blood obtained from which to get serum. Slight bleeding continued, and at 6 a. m. child was given 20 c.c. of serum, which was repeated at 12 m., and at 3 p. m. Child improved somewhat, but bled a little during the day and night. On the third day he was given three doses of serum, 70 c.c. in all, Dr. Smith of Wesley Hospital being the donor. No bleeding after first injection. Child lost 14 ounces in weight, but left in good condition and is living and well, 13 months old. History shows that the mother's father died of hemorrhage following a crushing injury of finger. One uncle died of bleeding from the nose and mouth at the age of 21. One cousin of this baby was very near death from bleeding after extraction of tooth. The blood findings in this case were apparently normal, but from the history a tentative diagnosis of hemophilia is made.

CASE 3. Baby R. The labor in this case was somewhat protracted and difficult, and baby was delivered with forceps after a thirty-six-hour labor. Baby weighed 7 pounds 14 ounces and was apparently healthy; no injury to be seen. Baby nursed and was well until the morning of the fourth day, when it had a temperature of 101.6, and seemed quite ill and did not nurse very much. About 10 a. m. had a large, very offensive dark stool, followed by another at 11:30 containing dark and light blood. The bowels moved every hour or more, and each stool was bloody. Temperature rose to 103.2 by 8 p. m. and child was very ill. Was given 30 c.c. of whole human blood and 2 c.c. of horse serum; 1 a. m., 20 c.c. human serum; 4 a. m., 20 c.c. human serum; 7 a. m., 20 c.c. human serum; 10 a. m., 35 c.c. human serum; 1 p. m., 30 c.c. human serum. The diapers were changed very often and each contained blood in varying amounts. Slight bleeding occurred from the nose and the mouth, and two hemorrhagic spots the size of a quarter of a dollar were seen on the lower part of the abdomen. Child died at 3 p. m., about thirty-four hours after becoming ill. No syphilitic history. Mother had normal puerperium. Diagnosis, melena neonatorum. No post mortem. The clinical picture was one of infection of the gastro-intestinal tract; 156 c.c. of serum were given, but had no effect that was appreciable. The child lost 9 ounces in weight in thirty-four hours.

CASE 4. Baby K. Normal delivery. Healthy appearing child. On the third day diaper had a large stain of blood in the morning; bleeding was from vagina; child not very well. Temperature 100.6. It looked worse than the bleeding indicated. Every diaper was stained quite red for a diameter of 4 inches or more. Child nursed well. Blood was taken from father and was allowed to stand in case serum was needed. Bleeding continued all night and as the child showed the

effects of the hemorrhage it was given 25 c.c. of human serum at 9 a. m., twenty-four hours after initial hemorrhage; three hours later 15 c.c. were given, and by 2 p. m. all bleeding had ceased and did not reappear. Child now 21 months old.

CASE 5. Baby C. Same as Case 4, excepting that the human serum was given in 15, 10 and 5 c.c. doses three hours apart, beginning thirty hours after bleeding started. The father gave the blood. The mother of this child has had a severe postpartum hemorrhage after both of her deliveries, requiring tamponnade of the uterus.

CASE 6. Baby B. This baby was born after three hours' normal labor. Parents both healthy. Mother had an uneventful pregnancy and puerperium. This baby was bleeding from the nose and mouth when born, and hemorrhage continued freely; twenty-five minutes after birth was given 25 c.c. of whole human blood and 5 c.c. of horse serum. Child died thirty-three minutes after birth. No post-mortem. Nostrils, mouth and throat bloody, but no erosions. Cause of hemorrhage unknown. Mother had another baby thirteen months later, which was a healthy, vigorous boy, who was circumcised on eighth day and showed no tendency to bleed. He is well and thriving.

CASE 7. Baby L. This child became quiet about eighty hours after birth and developed rather a severe case of melena neonatorum. In the first twenty-four hours had six bloody stools of moderate amount; two hours following second bloody stool was given 30 c.c. of human blood, and in four hours 20 c.c. of human serum. This was kept up and in forty-eight hours the child received 250 c.c. of human serum with very marked improvement; still the stools had a little blood in them. In the second forty-eight hours child received 120 c.c. of human serum and received 80 c.c. after blood had disappeared from stools and temperature reduced to normal. The highest temperature was 103.6, the lowest 100.8. The child nursed well after the first ten injections of serum. The father and two uncles were the donors of blood and were very willing givers. About 280 c.c. of serum were used in ninety-six hours. This child left the hospital well and is thriving, 8 months old.

CASE 9. Baby M. This baby was delivered after a very hard labor and a difficult forceps extraction, due to an occipitoposterior presentation. Child cried almost incessantly from birth, and on the third day presented severe nervous symptoms, and by the fifth day showed all the symptoms of cerebral hemorrhage. Lumbar puncture showed almost pure blood. The baby was given an injection of 15 c.c. of whole human blood, followed by 20 c.c. of serum in four hours. Sixth day was given 35 c.c. of serum in three doses. Child died early on the morning of seventh day. Other remedies were used, such as bromids, injection of normal saline solution and ice cap to head. The hemorrhage in this case was undoubtedly due to injury during birth.

CASE 10. Baby B. Normal delivery. Child normal. Credé was done to the eyes, and in twelve hours there was a severe conjunctivitis, but not much swelling of the eyelids. The secretion was blood-stained very markedly and resisted all remedies for two days. Microscope showed no infection. The child was given on the fourth day 15 c.c. of human serum at 9 a. m., and although the oozing stopped by 11:30, an additional 15 c.c. were given. No more bleeding. The

eyes healed up nicely, and there has been no recurrence of the trouble.

CASE 11. Baby P. Normal delivery and apparently normal child. On fourth day became ill; had four very offensive stools, the last three containing some blood. Blood was taken from father and the next day, after the first bloody stool, was given 30 c.c. of human serum, three hours later 20 c.c. was given, and child became much better. Had one slightly stained bloody stool that day, and one tarry stool the next morning. As we had 15 c.c. of serum left, we injected this so as to clinch matters, if possible. Child left hospital and was well until 13 months old, when through an error in diet it developed atypical Finkelstein's disease, the child having from fifteen to twenty bloody stools a day for eight days, when it died. In addition to other treatment it was given 320 c.c. of human serum, the largest dose being 40 c.c., the smallest 10 c.c.

CASE 12. Hematoma of moderate size with some bleeding from navel. This was controlled by two injections of human serum three hours apart.

CASE 13. Very large hematoma, with two hemorrhagic spots, one on lower abdomen and one on leg. Child was given three doses of serum, three hours apart, 70 c.c. being injected, the first dose being 30 c.c., then 25 c.c. and 15 c.c. This controlled the condition at once.

Etiology.—This remains to date an unsettled problem, although a few new theories have been added to the long list of old ones given out by the earlier writers on this subject. That hemophilia plays only a minor part in these hemorrhages is being borne out by the case reports of the last few years. Larrabee was able to collect 37 cases, and some of these doubtful from the history. Grandidier, in 228 cases of spontaneous hemorrhage from the navel after birth, found only 60 per cent. due to hemophilia. Ritualistic circumcision has often led to early recognition of the hemophilia and has been followed by severe bleeding and even death. This happened in Case 2, reported by the writer. Von Lumbeck reports a case which bled off and on for sixteen years, stopped, and showed no further tendency to bleed. According to Von Etlinger, childhood is the most dangerous period, and the old theory that children rarely die during the first year cannot be any longer held. A great many babies have died from hemorrhages in the past, and there are still a good number of fatal results from the first hemorrhage, or rather hemorrhages. It is a very rare condition that a child should die from the initial bleeding, but they do die from the first series of hemorrhages or from a continuous loss of blood. That this condition is due to infection seems the most plausible and has the largest number of followers. Gärtner, Newman and Babes have shown the septic nature of the bleeding in many cases. There are, of course, many cases in which it is difficult to see where infec-

tion could be the cause of the hemorrhage, as in those cases of intrauterine bleeding and those children that are born with an active hemorrhage going on, as in Case 6, reported in this paper. In cases of genital hemorrhage in girl babies this may only be a part of the bleeding that is going on. Rieter reports 7 cases of genital hemorrhage, 4 of which had bleeding in other organs; other cases of the same are of frequent occurrence. In operations, such as circumcision and tongue-tie, where there is no history of hemophilia, a local infection no doubt takes place which interferes with the normal action of the blood-vessels, causing a continual oozing. These cases often come in groups in large hospitals and may be of an infectious nature (Green and Swift). Welch believes that it is due to a toxin which reduces the normal equilibrium of the endothelium, or any other condition which will do the same. The clinical picture of melena neonatorum is one of infection, and is in reality the only one of the many types that clearly stands out with the typical picture of infection. Schoss and Commiskey believe the initial hemorrhage is due to some vascular lesion, and that the persistent oozing is due to a defect in the normal mechanism for control of bleeding. Marazek believes syphilis to be the factor in some cases. Quoting from Green and Swift, we have it that the first-born is more subject than others; second, number of deliveries or social standing no factor in etiology; third, the length of labor and forceps make no difference. The first two statements are accepted, but as to the third, it is clinically true that the cases of cerebral hemorrhage, hematoma of the scalp and sternocleidomastoid muscle must have the initial vascular lesion from the injury to the parts affected as a result of a long labor with or without a difficult forceps delivery.

Meyers believes that chloroform anesthesia predisposes to bleeding and reports nine cases. We believe that this is merely a coincidence and would have been the same had ether or any other anesthesia been used, and one might give ether as an etiologic factor where it was used during the delivery of a baby who afterward bled. Goodell lays a great deal of stress on the nursing of babies early in severe cases of toxemia of pregnancy after delivery. Nothing has been definitely learned regarding the blood itself as a factor in these hemorrhages: the coagulability has no bearing on the bleeding. In some cases the blood platelets have been greatly reduced in number and some stress has been laid on this point. The cases present themselves under so many different circumstances, the bleeding occurring in every

part of the body, that one might give an etiologic theory in each case. When one studies a series of cases, such as are reported in this paper, the etiology of the condition presents a difficult puzzle and a multitude of problematic causes. Clinically, these are cases of hemorrhages with the symptoms that go with such a condition, and the symptoms correspond to the amount of blood loss. As stated before, in many cases the visible bleeding is only a small part of actual hemorrhage that is going on, and the baby's condition shows it as such. We know the child is losing more and is more ill than is possible from the amount of visible blood. In *melena neonatorum* the babies become ill on the third or fourth day. There is an elevation of temperature; the child does not nurse well; the stools are tarry and very offensive, become more frequent as the time passes, and at times almost pure blood comes from the bowels. There may be bleeding in other parts, such as from the navel, from the mouth, under the skin, etc. The child loses rapidly in weight, refuses nourishment and is very ill. There is a papillary rash on the body in most cases. In all of the different varieties of hemorrhage the initial bleeding is never so severe and of such large amount as to endanger the life of the child, which is very fortunate from the standpoint of treatment and gives a fairly good opportunity to institute means of checking the bleeding without subjecting the baby to severe operative procedures, which would be necessary in case this initial bleeding was so profuse as to require the immediate replacing of a large amount of fluids.

The prognosis in these cases is infinitely better than it was eight or nine years ago, or even four years back; as will be shown in our discussions of the treatment.

Treatment.—We may date the modern treatment of this condition from 1905, when Weil recommended the use and injection of human or beef serum into the veins or under the skin in cases of hemophilia. In 1908, Lambert reports the case of *melena neonatorum* cured by transfusion of human blood. Many cases are now reported by various authors of remarkable cures by the use of blood or blood-serum, both animal and human. Bigelow reports three cases cured by injecting rabbit serum. Nicholson a case of *melena neonatorum* cured by the use of human serum. Mosenthal, Meyers, Swain, Jackson, Murphy, Vincent, Richards, Goodman and many others, report good success with the modern treatment of these hemorrhages in the new-born.

In 1910, Welch reported thirteen cases with one death, and used normal serum. It was this paper and his results that gave the great impetus to the use of human serum in these cases, and his later results have more than borne out the statements made in this paper in 1910. The treatment is divided as follows: 1. The injection of animal serums, such as horse and rabbit or beef. 2. Transfusion of human blood. 3. Injection subcutaneously of whole human blood either into a vein or under the skin. 4. Injection of human serum subcutaneously.

1. The injection of animal serum has caused bad symptoms in a great many cases and the results with its use have only been fair. It has been proven by Welch and others that in using animal serum the bad symptoms do not come from the antitoxin as in diphtheria, but from the serum itself; therefore, one must be cautious in the amount of serum used, else the child will develop serum sickness, which has caused fatal results, and the first doses sensitize the child against further injections.

2. Transfusion of human blood has been attended with many good results in these cases and is an excellent procedure, especially in cases where it is necessary to replace a large amount of blood rapidly, and it does check the bleeding in some cases permanently, but not in all, and must be used more than once. Transfusion is quite difficult, and to be used properly must be in the hands of an expert, and more so where one deals with new-born babies. Transfusion carries with it the dangers of thrombosis and embolism and infection. Fortunately in these cases, in the great majority of these instances it is a question of checking hemorrhages rather than the replacing of a large amount of blood, and a method which is simple and can be used as often as is required until the bleeding ceases is preferable to such a difficult and rather uncertain procedure as transfusion.

3. The injection of whole blood seems a very rational procedure and more so if the coagulability of the blood could be shown to be a factor in these hemorrhages. This procedure is also difficult owing to the coagulating rapidity of the blood after it is withdrawn and must be accomplished in a very short space of time. To those who have attempted injecting whole human blood either into a vein or subcutaneously, it is apparent how rapidly it must be done and how little success attends one's efforts, and the small amount of blood actually injected into the tissues. In a given case of hemorrhage one may commence the treatment by injecting as much whole blood

as they can or rather a good dose if possible, and while waiting for its effects, having more blood in preparation for the serum, and the treatment can be continued with the human serum. The whole blood is rapidly absorbed and has a decidedly good effect in some cases. The subcutaneous injection of whole blood is harmless and can be given in large quantities.

4. The results obtained by Welch and others, who have reported cases in the literature or personal reports to the writer, and the author's results in the reported cases in this paper, give the use of human serum the precedence over all other methods now in use. It is very effective and rapid in its action in controlling the bleeding, and has in many instances checked the hemorrhage when other methods have failed. The apparatus required for its use are in the equipment of every medical man, and the technic of the operation or rather of injecting the serum is exceedingly simple and can be carried out without failure in every instance. It can be used in the home just as safely and effectively as in the best regulated hospitals. Up to the present writing the author has been unable to find one case of sickness resulting from the use of human serum. At present it is impossible to say what a dose should be, but as the human serum evidently is harmless, no matter how much is given, it seems better to give what appears to a big dose rather than one that may be too small. It can be repeated every three or four hours, and that until the hemorrhage ceases. Welch gives the following cases:

First baby 98 c.c. in one day in two doses, 20 c.c. and 78 c.c., and a total of 896 c.c. in twenty-one days.

Second, first day, 54 c.c., 39 c.c., 12 c.c., 10 c.c., four doses, 112 c.c. in one day.

Third, seven days, 630 c.c.

Fourth, five days, 1034 c.c.

The writer has given, as reports show, in one case 320 c.c. and another 280 c.c., the largest single doses being 40 c.c., and the largest daily 70 c.c. The serum itself never gave the slightest evidence of causing any untoward disturbance, and, as stated before, there is apparently no limit to the doses. The question may be asked as to when one should begin the injections of serum in a given case. This is difficult to answer, but in view of the fact that the external evidence of bleeding may be only a small part of the real hemorrhage that is going on, and also that the human serum does not produce any untoward symptoms, one is justified in using human serum very early in these cases as a prophylactic meas-

ure, as much as for the use of controlling the bleeding. The writer has given human serum in several instances where there was just a slight hemorrhage from the navel, mouth or genitals. These cases are not reported, as the use of the serum was used in a prophylactic measure, and in all of these instances blood was secured and put away for the collecting of serum, should more be required, and this is considered one of the strong points in the successful use of serum, that of having at least three or four good size doses ready for use when needed. I have only in one instance had parents refuse to give blood and then gave it myself and had the reward of seeing the baby live and thrive. In three of the writer's cases human serum was used, either donated by the writer or by one of the internes at Wesley Hospital. In these cases the serum from the father or near relatives of the baby did not check the hemorrhage for reasons unknown, while two, or the most, three injections of foreign human serum checked the bleeding. The first case received 15 c.c. and 10 c.c., and hemorrhage ceased; the second, 70 c.c. in three doses; the third, 60 c.c. in three doses. I would strongly advise in those cases where considerable serum has been used from the mother, father, or near relatives without the desired result, that human serum be given, if possible from one who is not related in any way to the child and who is of a different nationality. The good result obtained by the use of human serum has so far not been explained. William H. Howell says that the good results from serum in melena neonatorum cannot be explained from our present knowledge of the processes of coagulation, and the same holds good for the other forms of spontaneous hemorrhages. Whether the serum acts on the blood-vessels themselves cannot be proven.

Comparing the old line of treatment with the present day use of blood-serum, either animal or human, we have the following statistics to show the great advance made in the treatment of these spontaneous hemorrhages. At the New York Lying-In Hospital, out of 18 cases, 17 died where only therapeutic means were employed. Green and Swift report 51 cases, with 25 deaths; 25 had animal serum, 12 of these died. Abt had fourteen cases, 10 died and 4 lived where only drugs were used. In 1911, the same author reports 7 cases, 6 lived and one died where whole human blood or serum was used. The one death was excusable, as the child was moribund when brought to the hospital. Welch reports 31 cases with one death where human serum was used. Schloss reports 14 cases with 4 deaths with the

use of whole human blood. The writer has 12 cases with 3 deaths. Many others have reported remarkable cures with the use of human serum, and many babies are saved that no doubt would have died under the use of drugs, etc.

The writer's technic for securing blood and keeping it has been as follows: A large vein is secured in the arm near the elbow, and a good sized needle inserted and blood allowed to flow into large test tubes sufficient in size to hold 50 c.c. of human blood, and with a wide mouth so that the serum can be easily withdrawn from the tube with a syringe that will hold 15 to 20 c.c. of serum. One test tube has been, as a rule, a sufficient dose for one injection and need not be used again. This protects the blood against infection that might occur where a large bottle was used and the cork removed several times. Where whole blood is used, it is withdrawn with a syringe and quickly injected into the patient. The injections were made subcutaneously into the back just below the scapula.

CONCLUSIONS

1. The etiology is still a doubtful quantity.
2. The use of blood-serum is a great and decided advancement over the use of drugs.
3. Human serum is to be preferred to animal serum, as it does not produce any undesirable symptoms, can be used as often as is necessary and does not sensitize the patient against the administration of more serum.
4. Injection of serum is better than transfusion, as transfusion is a very difficult procedure, and one transfusion is never sure of stopping the bleeding.

DISCUSSION

Dr. V. D. Lespinasse, Chicago: This is a very interesting paper to me. The first experience that I had in treating these babies was in 1910. I became interested in it from the standpoint of direct transfusion of live unclotted blood. I have had ten cases so far, with two deaths. Both of the babies that died were syphilitic. They were of all grades of severity, from medium to extremely severe. The worst case I had was one in the service of Dr. Joseph B. DeLee, in which the child, two days old, passed blood from the rectum at 7 o'clock and at 9 o'clock it was practically dead. The pulse was very fast and the child in coma. We transfused as soon as we could, and while working at transfusion the intern reported that the pulse had disappeared, and soon afterward he could not hear the heart beat. In fifteen seconds after we started blood into the jugular vein the heart beat returned, and that baby is all right to-day, and is now 9 months old.

In regard to the relative value of serum and transfusion, the serum will stop hemorrhage in practically all cases, but there are types of cases, particularly from the intestines, that are diagnosed relatively late.

Hemorrhage takes place in the stomach or bowel; it is not passed or vomited, and the first thing you know the baby is in collapse. These cases should be transfused immediately.

I have been called three times now to see cases of gastro-intestinal hemorrhages and to do transfusion, but the baby had been treated with serum, and died before I arrived. These cases have been given serum and in waiting for the serum to act they have died. In cases of the purpuric type, which are diagnosed as soon as the bleeding commences, there is a great field for human serum. But when the bleeding is from the bowel or mouth one is uncertain how much blood has bled into the lumen of the bowel or stomach, and a transfusion should be done as soon as possible.

Several years ago Dr. Graham did work in asphyxiated guinea-pigs, and when the little pigs were born they all had hemorrhages. I should think oxygen might be of value in these cases.

There is one case reported that, if transfused, I think would have lived. I think it is the first case that Dr. Goldstine reports. Transfusion is never too late. It can be done up to the time of or immediately preceding death.

Transfusion will do all that any other method of treatment will do. It will even save cases that are practically dead. Why not use it early and often?

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AFTER MISSOURI'S EXAMPLE—A HINT TO THE AUTO FOLKS



(Courtesy of Mr. Bradley and the Chicago Daily News.)

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Editorials

GOVERNOR DUNNE INDORSES GOOD ROADS

In his inaugural address to the 48th general assembly Governor Dunne dwelt at considerable length on the question of the improvement of the highways of the state. He recommended the passage of laws which would promote the efficiency and economy of the administration of the road system of the state. The general assembly has wisely enacted his recommendations into law. In conformity to this end the Governor has appointed three gentlemen as members of the state highway commission, under whose control will lie the enforcement of the Goods Roads Bill.

At the present time, the world over, the subject of good roads is a live and important topic. No member of the community, whether urban, suburban or rural, should have more interest in good roads and a keener desire for the betterment of our highways than the physician.

Good roads extend his practice, widen his sphere of usefulness and increase both the comfort and safety of his daily journeying. Good roads, too, increase the safety of his patients, for in many an emergency the speed with which a

call can be answered will determine the question of life or death.

After appointing the good roads commission the Governor, according to published reports, called the members of the commission to his chambers and instructed them as follows: "You gentlemen are entrusted with one of the most important problems with which this administration has to deal. The good roads problem touches vitally our agricultural, commercial, educational, social, religious and economic welfare, and as well involves the conservation of natural resources.

"Sentiment throughout Illinois is and has been strong for better roads, reasoning as they should, that better roads mean that the farmer can get his produce to the market more quickly; it means better schools; larger neighborhood communities, better social conditions of all kinds. It means that Chicago is closer to Springfield and Springfield closer to Cairo. It directly connects the different communities of the state with each other. Legislation adopted by the 48th general assembly makes possible the perfection of our roadways.

"In the improvement of public highways, Illinois has been very negligent. The latest Federal report shows that in Illinois about 10 per cent. of the 95,000 miles of roads are improved in a permanent manner, as against 38 per cent. in Indiana, 20 per cent. in Wisconsin, 20 per cent. in Kentucky, 28 per cent. in Ohio and 50 per cent. in Massachusetts. Considered from the standpoint of improved roads, Illinois is the twenty-fourth in the list of states.

"Because of inaccessible primary markets, and the abnormal expense of transportation due to bad roads, the loss to farmers must be considered as a contributing cause of the high cost of living. In some Illinois counties, highways are impassable to ordinary loads for a full third part of the year. Bad roads not only hinder crop production and marketing, but they keep the rural consumer away from the store of the merchant for weeks at a time. They keep pupils from the schools, and voters from participation in elections. They impair the efficiency of churches and social, fraternal and other organizations, which depend largely on public gatherings for the efficacy of their work. They contribute also to the unattractiveness, isolation and the monotony of country life, which in turn are responsible for the desertion of rural pursuits, especially by the young. Experts in mental ailments agree that women in remote sections are the chief sufferers from the restriction to social intercourse, which bad roads impose."

In his message to the general assembly, the Governor also recommended that provision be made for the employment of the inmates of the penitentiaries in road work. The legislature has adopted a bill to that effect, and this will lead to many good results.

Before dismissing the committee the Governor is quoted as follows:

"I want you gentlemen to give to the positions to which I have appointed you the best that is in you and to work in cooperation with me for the improvement of our roads. Nothing that we can do will mean more to the state of Illinois than to improve its roadways. I leave to you the working out of the necessary details. Yours is a big job, but I think I have selected men competent to fill the places that have been given them. I place the matter in your hands and hope that when our terms of office shall be ended we will turn over to our successors a vastly improved system of roadways in the state we all have been called on to serve."

The subject of good roads is of the greatest interest to the medical profession, and every physician in the state should boost along the cause of good roads. Their efforts in this direction will help to ameliorate, as soon as possible, this one of the many hardships to life in the rural districts, which works a special hardship to the life of practitioners who have a rural clientele.

COUNTY TUBERCULOSIS LAW

Elsewhere in this issue will be found an article by Dr. Mammen, calling attention to an Illinois County Tuberculosis Sanitarium Law, and, in a measure, comparing it to the "Glackin Tuberculosis Law," which was published last month.

This is a good law for certain localities, more especially for the sparsely settled counties which contain no cities of considerable size, and such counties should make use of it just as they should make use of any agency with which to wipe out tuberculosis. It should be given publicity, and where practical the public should benefit from it.

We think, however, in most of the counties of Illinois the Glackin Law is more applicable to the purpose intended. The County Law is a sanitarium law, providing only for the building and maintenance of sanatoria, the funds for which are to be had from the general tax fund of the county, which is usually too meager.

The Glackin Law is an anti-tuberculosis law, providing not only for the building and maintenance of sanatoria, but also for tuberculosis dis-

pensaries and other auxiliary institutions for fighting the disease, the funds for which are to be had from a special tax levied for this purpose alone, and not to exceed one mill on the dollar.

The dispensaries and other auxiliary institutions are a great factor in the prevention of tuberculosis. A well-directed dispensary may do a very great deal in educating the people concerning the prevention of this disease. Where more applicable the people should take advantage of the County Sanitarium Law, and when the need arises, secure the extension of the law, so that they may maintain auxiliary institutions and operate them in conjunction with and supplemental to the sanitarium.

MEDICAL ECONOMICS

On occasion, a wise and superlatively good man said, "Let him that is without fault cast the first stone."

The members of the medical profession are so far from perfection that very few of them could claim the right to speak, if faultlessness were the test of critical fitness. But the initial rock of just censure for the grave faults which afflict our fraternity was thrown long ago. Admitting our shortcomings, then, we need not keep silence where frank, honest, kindly criticism from our own ranks may help us to recognize and to cure our ethical infirmities.

It is with this in mind that we publish in this issue the communication from Dr. Breakstone. So far as space will permit, the ILLINOIS MEDICAL JOURNAL will be an open forum for thoughtful discussion of vital matters by the members of the Society.

THE ALIENISTS' AND NEUROLOGISTS' MEETING

In the latter part of June there was held in Chicago, under the auspices of the Chicago Medical Society, a notable meeting of alienists and neurologists, great in what has already been accomplished and equally great in its promise for the future. The gathering originated in a plan of the West Side Branch under the presidency of Dr. W. T. Mefford, who secured a similar meeting last year. This gathering was so successful that it was determined to enlarge the scope of the association and place it this year under the guidance of the Chicago Medical Society. The second meeting was attended by a large number of delegates, among them representatives sent by the

governors of fifteen states. It served to draw public attention to the higher aims of the association and to mark a notable step toward the education of the public and of the general practitioner in the care and prevention of insanity and mental deficiency.

The advance of medical science has brought preventive and social medicine to the front and has demonstrated how great a part the physician as an individual and as a member of a united profession is to play in the social movements of our time. There is no more promising field of effort in preventive medicine than the prevention of nervous and mental disease. The modern trend of united professional effort is well shown in the resolutions passed by this association. These men are no longer content to make mere statements of scientific fact; they contemplate action and show that the physician is not merely a scientist, but a philanthropist and a citizen as well.

The resolutions indicate the direction in which the association hopes to influence public opinion. The first recommends custodial care or sterilization for the feeble-minded, the epileptic, and the criminal insane. This places before the medical profession and the public a very important question. Already the experiment of legislation on this subject is being tried and seems likely to be greatly extended in the near future. This movement needs to be guided to a sane conclusion by the medical profession and every physician has the responsibility of preparing himself to help settle the questions involved.

A second resolution calls attention to the danger to the public from intemperance and insanity among railroad employees, and recommends the exclusion from such service of men who drink either on or off duty and suggests an examination from time to time in order to exclude those found to be mentally unfit.

The third important resolution recommends the teaching of eugenics to high school pupils. To this ought to be added some means of reaching the large proportion of the population whose education does not include a high school course.

A larger attendance is expected next year, and two years from now it is hoped that the meeting will have an international scope. It is not easy to estimate the importance of these meetings, and while we commend the Chicago Medical Society for its forward step we may suggest that other societies may follow by giving similar prominence to topics on which the public needs information and leadership.

Correspondence

MEDICAL ECONOMICS

CHICAGO, Aug. 15, 1913.

To the Editor:—The keynote of medical economics was sounded in the July issue of this JOURNAL by President Whalen. There is no questioning the fact that there are comparatively few physicians, frankly speaking, who honestly get what should be termed a fair living, in keeping with the requirements of a professional life. To earn such a living is also growing more difficult each year, to say nothing of the rise of living expense, so that it is not far-fetched to compare conditions which economically threaten the profession in England with those in America. The outlook bodes ill for us unless the leaders in this country will cease thinking about themselves so much and look more to the welfare of the profession as a whole.

There are very many contributing causes to this economic condition. In all other pursuits for a livelihood, competition has been the main factor in reducing the number of prosperous individuals in their respective callings. In the medical profession, however, competition should be the smallest factor, providing each one in the profession will act as a fractional part of the whole, for the good of the whole. Such, however, is not now and never has been the case, and our leaders are too largely responsible. There is not a student who, when he graduates from a good medical college, is not imbued with the spirit of dignity, honesty and self-sacrifice, which should be the main qualifications of every physician. There is not a graduate of these colleges who does not put on a pedestal of moral idealism the members of his faculty, but when he enters the ranks to earn a livelihood in an upright, dignified manner he soon discovers that very many of the men, whom he held in such high esteem as promoters of the road of ethical practice, do not travel that route themselves, but seek more profitable by-paths along which are to be had for the picking, the cutting of prices, outright stealing of cases, damning brother practitioners, newspaper notoriety, and all the crass commercialisms which the *code of ethics* taught by them in college denounces in no uncertain terms.

Fortunately, not all our old-time teachers are guilty of all these things. The majority of them are honorable men in many particulars, but somehow the self-importance of certain prominent individuals amongst them leaks into the lay press often enough to make good business for them-

selves, no doubt, but to set at naught the ethics they upheld so eloquently in the amphitheater. A few men have striven to control the clinical material of certain medical centers without regard to the effect it would have on the patient, on the profession and on the public at large. In these and other matters selfish ambition and personal and professional jealousy mar the fair figure of medical idealism. Medical education in the recent past must have been worse in Europe than it is to-day in America. If one of our late leading surgeons and pathologists—a foreign graduate in medicine—could pay \$400 for the privilege of being on the staff of Cook County Hospital, he must have felt within himself that he did not learn sufficient in his medical course across the water.

Only recently a man of great prominence in the medical profession of this city remarked that he would have been glad to pay for the privilege of being on the Cook County Hospital staff at the time he began the practice of medicine, intimating also that doctors ought to be glad to pay now for the privilege of medically serving Cook County for nothing. No one can doubt that this statement was made in absolute sincerity, but what a reflection on the whole profession and on the system of medical education! What effect would such a statement tend to have on the public at large? Surely doctors should pay the people for the privilege of treating them. Furthermore, in all humanity, should Cook County employ physicians to attend its sick who feel themselves incompetent and are willing to pay for the privilege of completing their education by experimenting on poor patients? The county which calls in the doctor without recompensing him is, by the way, not poor. These are all serious questions, and we intend later to write more specifically on each of the factors herein touched on.

The peculiar attitude which we doctors have assumed and maintained for decades toward this question of the care of the public's sick is illogical and anomalous, and should have, if it has not in fact, had its bad effect on the patient in question. Conscious of the physician's feeling, he should logically conclude that he does not need to pay a doctor, because he is the greatest factor in teaching him his business: indeed, perhaps the patient ought even to receive monetary return for being experimented on. We do not know of any other calling where even for experimental purposes the experimenter does not receive pay for labor and time expended, trying to benefit someone else. There is nowadays almost a house to house canvass for patients by the agents of clinicians look-

ing for clinical material; and many a patient in our metropolitan centers has made all arrangements with his physician to have some condition treated for a certain agreed price when the philanthropic (?) clinical agent appeared and he was carried off to "the great medical college" to have his ailment treated free, while the learned professor expounded this wonderful sickness, thus demonstrating to the patient that had he had that ordinary M.D. attend him, he would have been mistreated and robbed, having actually to pay for service. These physicians of prominence are perhaps not aware of the harm they are doing. They serve on hospital staffs, where, in order to help the institution, they accept patients into the wards for the mere price of a bed, and do not try to find out whether they are able to pay a physician's fee. And we affirm without fear of successful contradiction that there are many more patients in hospital clinics to-day who are able to pay more than an ordinary fee than there are patients treated outside of hospitals who pay less than ordinary fees. And all this is done without impressing on the patient that he is receiving something for nothing. The same class of physicians are trying to control the insurance corporations.

There are now in Chicago upward of two hundred thousand employees who are insured against accident, sickness and injury. There are approximately two hundred thousand patients treated in wards of hospitals and dispensaries free of charge, and there are approximately five thousand physicians in Chicago to take care of the balance of the two million people who "sometimes" pay their doctor bills. To figure out the average income of this remaining 1,600,000 people, from whom the doctors must earn their livelihood, is to see how much there might be for each doctor to make honestly out of the practice of medicine and survive in Chicago. And this does not prevail in Chicago alone, but in all medical centers of America. The hospital and insurance evil are even encroaching on the smaller towns so that the country practitioner's income is also being cut. All this certainly has a demoralizing effect on the profession at large. We must live, and in order to live we must have an adequate income. To this end we must get business, and the door of irregular practice stands open, inviting to easy but tainted money. Quackery is on the increase, and right here we wish to state that quack ads to-day, as bad as they are, do not do as much harm as some of the statements made by some of the men whom we idolize, merely because they wish to rush into print without giving the profession a thought.

The effect this has on the people at large is evidenced by public institutions and hospitals run by the so-called philanthropists, at the expense of the physician, because they can always get a physician to work for nothing, whereas they have to pay their janitor, fireman, cook and social worker, who with the philanthropist receives this *quid pro quo*. But the physician on the charity staff must do his work or lose the coveted job to the many other fool doctors who are ready to step into it over his professional corpse. And so it comes about that the public has little confidence in the physician's opinion, as evidenced in our farcical expert testimony, and in many expressions that the reporters may get from doctors on any subject for newspaper publication. These evils can be remedied by the profession itself if the individuals who have up to now acted as self-appointed representatives will unite with their fellows for the benefit of the whole profession rather than for their own self-aggrandizement. We should not give out any opinion to the lay press until we have talked it over and reasoned out the effect it would have on the profession as a whole. Then the now self-appointed representatives would have a healthy growth, and their influence would be of lasting value. It is easy to throw stones. Yes, and there are many targets to be hit, and hit hard.

BENJAMIN H. BREAKSTONE, M.D.

32 North State Street.

CONTRACT PRACTICE

CHICAGO, Aug. 15, 1913.

To the Chicago Medical Society, Greeting:—

I hereby wish to refer to the Chicago Medical Society "a case," which I believe is of such importance to the medical profession in general, that it should not be allowed to rest as a personal matter, pertaining to myself only.

History.—I was called, April 25, 1913, by Mr. Louis H. Verick of 3122 Indiana Avenue (called on me in person and took me to 3821 Indiana Avenue) to see his employee, Mike Meyer, who was injured. Patient had emergency (first aid) dressing applied before my call. I was employed by L. H. Verick to treat patient. Had to make surgical dressing to bad scalp wound, also one to right elbow for bad laceration and some maceration of tissues, besides ordering medicine for fever and liniment to other parts of body. I state this because I charged \$3 a call for material used and services, and subsequently \$2 for office dressings, making a total of \$44 for entire amount. Patient being well and discharged cured,

I presented my bill to Mr. Louis H. Verick. I then received a call from an agent of the Standard Accident Insurance Co., 175 W. Jackson Boulevard, and was informed my bill was too high, etc., and they were willing to make a settlement by paying their customary fees of \$2 at residence calls and \$1 office calls. I told him that I had nothing to do with the insurance company, that my bill was for services to Mr. Louis H. Verick, that in fact I never did allow any company or individual to put a price on my services, etc., and he then told me I would not get any more work from his company. To this I answered that Mr. Verick employed me in this case and as I was not a scab I did not want to prostitute my profession by cheap labor; at this he drew out a typewritten paper containing the names of many physicians. I regret I did not make notes, but I now distinctly remember seeing the names of A. H. and of Dr. H. (they impressed themselves on my mind more than others, for both are classmates of mine) and the agent stated that "all these physicians are doing and have done work for us and our fees are \$2 at residence and \$1 for office dressings." I ordered the agent out of my office and informed Mr. Verick that I would look to him to pay the bill: after some more time passed by I sent a letter by mail to Mr. Verick, informing him that the bill was overdue and expected payment of same. Mr. Verick informed me he forwarded the same to the company and asked for sufficient time to get a reply. In the meantime Mr. Louis H. Verick never denied nor disputed my bill, and in fact stated he was responsible, only he could not pay it because the insurance company was responsible to him, as he was paying for the insurance of his employees. Only July 25, 1913, the following was handed me by Mr. Verick, which he received from the Standard Accident Insurance Co. (presumably). Letterhead—Henry B. Bale, Adjuster, Suite 1047, 175 W. Jackson Boulevard: Phone. Wabash 1792.

CHICAGO, July 25, 1913.

Louis H. Verick, Esq.

3122 Indiana Avenue, Chicago, Ill.

Dear Sir: I have your letter with reference to the bill of Dr. Kercher. We do not propose to pay Dr. Kercher's bill until he reduces it to \$35. We have told him this over the telephone, and if he is not satisfied to take that, let him sue for the bill, and we will defend you. We are not going to be held up by him or any other doctor for excessive doctor bills, and that is particularly true when, as a matter of fact, under the compensation act he could not collect anything from you. Dr. Kalliontzis was the first doctor called, and his bill is the only one we ought to pay. We have paid him in full for the first treatment.

Let me suggest this: when Dr. Kercher takes this matter up with you again tell him he must take it up with us, and that it is in our hands entirely.

Yours truly,

HENRY B. BALE.

Now, to this I told Mr. Verick that I must not take this matter with them, and I am not going to. So it is up to me to either accept \$35 or bring suit against Mr. Verick.

Now there is no doubt in my mind but that many physicians or people in business would accept \$35 rather than go to the expense of going to law and waiting a long time for their money. I thank the Lord I am not one of them and I prefer to fight, when a principle is involved, which not only concerns me, individually, but it concerns the entire medical profession and for this last reason I ask the Chicago Medical Society to take interest in this matter.

I ask the Chicago Medical Society to furnish legal services, to sue Mr. Louis H. Verick for the bill, thereby forcing the insurance company to an issue and to make them show that they already own a large number of physicians to whom they dictate prices and parcel out work, or show this insurance company up as arrogant bluffers.

Very respectfully,

JOHN KERCHER, M.D.

3144 Indiana Avenue.

AUDITOR'S REPORT ILLINOIS STATE MEDICAL SOCIETY, MAY 16, 1913

August 21, 1913.

Board of Directors,

Illinois State Medical Society.

Gentlemen:—We have completed an examination of the accounts, records and vouchers of the Illinois State Medical Society covering the period from May 16, 1904, to May 16, 1913, inclusive, and have submitted to you a complete detailed report on same.

We can say, however, in substance that we found all funds properly accounted for in accordance with the records.

We have also examined the published reports of both the secretary and treasurer appearing in THE ILLINOIS MEDICAL JOURNAL. We found some errors in these published reports when same were compared with the figures in the books of the Society. These errors are evidently of a clerical nature.

We recommend that the Society, in its published reports each year, should be given complete details of receipts and disbursements. In our opinion the reports in the past have not been in sufficient detail to enable anyone to clearly understand them without access to the records.

Furthermore, in order that a comparison can be made with the treasurer's report, we strongly recommend that the secretary's report of receipts cover the same period as the treasurer's report.

Yours very truly,

ERNST & ERNST,

Certified Public Accountants.

REPORT OF EXAMINATION

ILLINOIS STATE MEDICAL SOCIETY

May 16, 1913

Board of Directors, *Illinois State Medical Society.*

Gentlemen:—In accordance with your request we have made an examination of the books of account and records of the Illinois State Medical Society for a period of nine years from May 16, 1904, to May 16, 1913, inclusive.

We have used May 16, 1904, as a starting point for our audit, as we found on file a signed certificate from the National Bank of Decatur dated May 16, 1904, to the effect that the balance in the bank to the credit of Everett J. Brown, Treasurer, Illinois State Medical Society, on that date was \$1,127.45, and this balance agreed with the books of the Illinois State Medical Society on the same date.

We were advised that each year the Treasurer's annual report covering the financial transactions for the preceding year was published in the ILLINOIS MEDICAL JOURNAL, but on examination of these JOURNALS we were unable to find any Treasurer's annual report published after the one for the year ending January 1, 1910, until the year 1913. This last report was from January 1, 1913, to May 16, 1913, and accordingly we submit (on page 184) a statement of the cash receipts and disbursements from May 16, 1904, to May 16, 1913, and these figures are based on the Treasurer's reports which have been published.

In the three years from Jan. 1, 1910, to Jan. 1, 1913, for which we could find no reports, we have endeavored to analyze the receipts and disbursements along the same lines that were followed in the preceding published reports.

In our examination of these published reports we found several discrepancies in the totals as compared with the book records, but in most cases the errors appeared to be in the printing of the figures in the reports. The published report for the year ending Jan. 1, 1909, was very meager and differed in its general arrangement and lack of detail from all the preceding reports. This report contained the following:

Receipts all sources.....	\$20,431.09
Disbursements	10,571.90

Balance on hand Jan. 1, 1909.. \$ 9,859.19

On Jan. 1, 1909, the general fund amounted to \$6,058.69, and the balance in the bank to the credit of Medicolegal Defense Committee amounted to \$3,799.50, a total of \$9,858.19 or a discrepancy of \$1.00, as compared with the published report, if we combine the General and Defense funds. All of the other published reports show the General Fund separate from the Medicolegal Defense Committee Fund.

Our audit of the cash transactions was very thorough. The entries in the cash book representing disbursements were verified by an examination of not

only the cancelled bank checks, but also all other invoices or vouchers on file. In most cases there was a cancelled bank check, as well as a voucher, to support the disbursement, but in all cases we were able to locate either one or the other.

We were unable in the time available to verify the cash receipts from advertisements. This could only be done by a comparison of the cash received with the advertisements appearing in *THE JOURNAL*, and such a verification would require a lengthy examination. Accordingly we have used the book figures for such receipts without independent verification by us.

According to the records the Secretary has turned over the following amounts:

AMOUNTS TURNED IN BY SECRETARY

	General Fund	Defense Fund	Total
May 16, 1904, to May 18, 1905.....	\$ 2,817.25	.....	\$ 2,817.25
May 18, 1905, to Jan. 1, 1906.....	1,362.58	.....	1,362.58
Jan. 1, 1906, to Jan. 1, 1907.....	3,639.05	.....	3,639.05
Jan. 1, 1907, to Jan. 1, 1908.....	7,200.81	\$3,427.00	10,627.81
Jan. 1, 1908, to Jan. 1, 1909.....	7,668.54	4,056.50	11,725.04
Jan. 1, 1909, to Jan. 1, 1910.....	7,232.84	4,463.00	11,695.84
Jan. 1, 1910, to Jan. 1, 1911.....	6,364.72	4,054.00	10,418.72
Jan. 1, 1911, to Jan. 1, 1912.....	7,716.45	4,580.00	12,296.45
Jan. 1, 1912, to Jan. 1, 1913.....	8,246.50	5,627.00	13,873.50
Jan. 1, 1913, to May 16, 1913.....	3,914.30	3,637.00	7,551.30
	\$56,163.04	\$29,844.50	\$86,007.54

We have verified these receipts by direct reference to the Secretary's records, although we have not confirmed any of the amounts received by the Secretary by direct correspondence with the party remitting to him.

According to the detailed schedule of cash receipts and disbursements, the balance on hand May 16, 1913, in the General Fund amounted to \$5,570.68, and we have reconciled this amount with the balance on hand in the Farmers' State Bank, Belvidere, Ill., on July 1, 1913, as shown by a signed statement received from this bank.

We show a statement of the earnings of "THE JOURNAL" (on page 185), and according to this statement, which is based wholly on the cash receipts and disbursements, the income from advertisements, etc., from May 16, 1904, to May 16, 1913, amounted to \$34,900.99, while the expense (exclusive of the salary of Dr. G. W. Kreider) totaled \$61,388.20, or a net loss for the nine years of \$26,487.21.

On page 185, we show an exhibit of the Medicolegal Defense Committee from September, 1907, to July 9, 1912. On this date the cash on hand amounted to \$8,923.15 and we were unable to find any record of the transactions of this committee from that date to Jan. 1, 1913, although we found that the Secretary, according to his records, had turned over to the fund during the period stated the sum of \$921.00. After taking this into consideration the balance on hand would amount to \$9,844.15 on Jan. 1, 1913. On the same date, however, the present Treasurer starts his published report with a balance on hand of \$9,958.93, an increase of \$114.78, and this may be interest on the savings account, but we were unable to confirm same, owing to the limited time available for this report.

This published report showed a balance in the Defense Fund on May 16, 1913, of \$11,595.93, and accord-

ing to the Secretary's books he turned over to this fund early in June, 1913, the amount of \$269.00 which would increase the balance on hand July 1, 1913, to \$11,864.93.

According to a certificate from the Farmers' State Bank, Belvidere, Ill., the balance in this fund on July 1, 1913, amounted to \$12,042.26, and this increase of \$177.33 is possibly interest earned on the savings account.

We call your attention to the large amounts which have been paid by the Medicolegal Defense Committee to Dr. N. H. Moyer, and up to the present writing we have seen no vouchers or invoices of any kind to support these payments. It is our opinion that your vouchers

for expenditures, even though properly approved, in many cases do not carry sufficient information to enable us to determine whether they are proper expenditures of the Society, and we recommend that a more up-to-date system of accounting be installed at once.

The time available for this report was not sufficient to enable us to go into all matters as thoroughly as we should have liked to do, but we believe that we have covered substantially all matters that could be gone into in that time.

Yours very truly,

[SEAL]

ERNST & ERNST,
Certified Public Accountants.

REPORT OF EXAMINATION

DR. H. N. MOYER

ILLINOIS STATE MEDICAL SOCIETY

Board of Directors, Illinois State Medical Society.

Gentlemen:—Supplemental to our report of July 22, 1913, on the cash transactions of the Illinois State Medical Society, we submit herewith a statement of the receipts and disbursements of Dr. H. N. Moyer, representing the Defense Fund of the Illinois State Medical Society for the period from Oct. 1, 1906, to June 30, 1913, inclusive.

We have verified the disbursements by comparing them with vouchers submitted to us. There were no vouchers, however, for a number of the disbursements and we append a list of the items we were unable to verify.

The balance of \$547.39, as shown on this report, agrees with the balance as shown by the records, but we have not confirmed it by correspondence.

Yours very truly,

[SEAL]

ERNST & ERNST,
Certified Public Accountants.

CASH RECEIPTS AND DISBURSEMENTS, ILLINOIS STATE MEDICAL SOCIETY, FROM MAY 16, 1904, TO MAY 16, 1913

	May 16, 1904, to May 18, 1905.	May 18, 1905, to Jan. 1, 1906.	Jan. 1, 1906, to Jan. 1, 1907.	Jan. 1, 1907, to Jan. 1, 1908.	Jan. 1, 1908, to Jan. 1, 1909.	Jan. 1, 1909, to Jan. 1, 1910.	Jan. 1, 1910, to Jan. 1, 1911.	Jan. 1, 1911, to Jan. 1, 1912.	Jan. 1, 1912, to Jan. 1, 1913.	Jan. 1, 1913, to May 16, 1913.
RECEIPTS										
Balance on hand at beginning...	\$1,127.45	\$ 703.44	\$ 900.50	\$1,777.39	\$3,291.88	\$6,058.69	\$ 713.70	\$ 1,135.00	\$ 105.17	\$4,375.25
Advertisements, etc.....	2,731.50	2,700.00	3,400.26	3,556.08	4,200.17	4,430.44	4,384.16	3,806.78	4,155.53	1,546.07
E. W. Wells.....	2,817.25	1,362.58	3,639.05	7,200.81	7,668.54	7,232.84	6,364.72	7,716.45	8,246.50	3,914.30
Chicago Medical Society.....	1,591.50	367.50	1,368.00	.....	.....	.....	.....	.....	.....	.....
Interest.....	.....	.....	.....	.....	.....	.....	.....	.....	345.45	.....
Savings fund.....	.....	.....	.....	.....	.....	.....	115.90	.....	5,000.00	.....
DISBURSEMENTS										
JOURNAL.....	\$8,177.70	\$5,133.52	\$9,307.81	\$12,534.28	\$15,160.59	\$17,711.97	\$11,578.48	\$12,658.23	\$17,852.65	\$9,835.62
Discount and rebates.....	\$4,887.75	\$2,389.17	\$3,993.20	\$4,375.50	4,084.76	5,273.65	4,385.65	4,823.65	5,606.32	1,707.00
Expense Editor.....	13.58	37.29	39.14	35.00	21.62	2.85	.....	.....	.....	1.00
Expense F. R. Green.....	73.73	.....	973.76	860.00	1,073.08	1,130.00	1,100.00	1,480.90	1,368.00	563.00
Expense George E. Baxter.....	.....	.....	460.00	511.98	1,247.37	1,841.10	1,708.41	1,794.16	1,736.68	671.33
	\$4,975.06	\$2,426.46	\$5,465.10	\$6,882.65	\$6,426.83	\$8,247.60	7,194.06	\$8,117.71	\$8,710.40	\$ 2,942.33
Honorariums.....	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,550.00	1,550.00	.....
Commission.....	287.50	7.50	.....	.....	300.00	65.00	.....	22.56	.....	.....
Judicial Council.....	629.95	463.23	575.81	335.19	359.52	331.22	290.38	362.65	650.05	222.05
Printing, etc.....	56.50	52.35	240.70	179.25	153.70	113.50	163.25	193.00	137.30	147.25
Expense Secretary.....	289.20	17.69	38.16	353.11	311.67	335.86	442.74	379.00	441.45	352.48
Expense Treasurer.....	15.00	12.25	.....	41.40	.....	.....	.....	.....	.....	.....
William Whitford.....	221.05	233.54	.....	429.80	161.75	205.05	.....	394.22	327.37	.....
Expense.....	.....	20.00	22.50	21.00	183.88	129.95	88.35	503.98	745.72	26.83
Carl E. Black.....	.....	.....	188.15	.....	.....	.....	.....	.....	.....	.....
Dr. Baum.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savings fund.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical Legislation.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dr. Harold C. Ernst.....	.....	.....	.....	.....	.....	.....	.....	.....	112.11	.....
Major W. M. Ireland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.00
State Directory.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Expense President.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Typewriters.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medical Education.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bureau of United Medical Society.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morgan Co. Library.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dr. W. K. Newcomb.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	498.50
Dr. C. J. Whalen.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50.50
	\$7,474.26	\$4,253.02	\$7,530.42	\$9,242.40	\$9,101.90	\$16,998.27	\$ 10,443.48	\$12,553.06	\$13,477.40	\$4,264.94
Balance on hand at end.....	\$ 703.44	\$ 900.50	\$1,777.39	\$3,291.88	\$6,058.69	\$ 713.70	\$ 1,135.00	\$ 105.17	\$ 4,375.25	\$5,570.68

OPERATING STATEMENT ILLINOIS MEDICAL JOURNAL

	Income Advertisements	Expense	Profit * Loss
May 16, 1904, to May 18, 1905.....	\$ 2,731.50	\$ 4,975.06	\$ 2,243.56
May 18, 1905, to Jan. 1, 1906.....	2,700.00	2,426.46	273.54*
Jan. 1, 1906, to Jan. 1, 1907.....	3,400.26	5,465.10	2,064.84
Jan. 1, 1907, to Jan. 1, 1908.....	3,556.08	6,882.65	3,326.57
Jan. 1, 1908, to Jan. 1, 1909.....	4,200.17	6,426.83	2,226.66
Jan. 1, 1909, to Jan. 1, 1910.....	4,420.44	8,247.60	3,827.16
Jan. 1, 1910, to Jan. 1, 1911.....	4,384.16	7,194.06	2,809.90
Jan. 1, 1911, to Jan. 1, 1912.....	3,806.78	8,117.71	4,310.93
Jan. 1, 1912, to Jan. 1, 1913.....	4,155.53	8,710.40	4,554.87
Jan. 1, 1913, to May 16, 1913.....	1,546.07	2,942.33	1,396.26
	<u>\$34,900.99</u>	<u>\$61,388.20</u>	<u>\$26,487.21</u>

NOTE.—(a) The above does not include the salary of Dr. G. N. Kreider, which has been placed under the heading "Honorariums." From May 16, 1904, to June 1, 1911, his salary was paid at the rate of \$600; since June 1, 1912, his salary has been paid at the rate of \$900 per year. In case all of his services are in connection with THE JOURNAL, his salary should also be included in the expenses to arrive at the losses. (b) The figures shown above were taken from the cash receipts and disbursements of the Illinois State Medical Society.

MEDICOLEGAL DEFENSE COMMITTEE

ILLINOIS STATE MEDICAL SOCIETY

From September, 1907, to July, 9, 1912

RECEIPTS

Sept., '07	Dr. E. W. Weis.....	\$ 2,961.50
Jan. 1, '08	Dr. E. W. Weis.....	465.50
May 6, '08	Dr. E. W. Weis.....	2,465.50
Sept. 1, '08	Dr. E. W. Weis.....	1,071.00
Oct. 31, '08	Ill. Hom. Med. Assn..	316.00
Dec. 28, '08	Dr. E. W. Weis.....	520.00
May 6, '09	Dr. E. W. Weis.....	2,893.00
July 26, '09	Dr. E. W. Weis.....	932.00
Dec. 9, '09	Dr. E. W. Weis.....	638.00
Jan. 1, '10	Interest	52.50
April 5, '10	Dr. E. W. Weis.....	564.00
May 6, '10	Dr. E. W. Weis.....	2,339.00
Oct. 1, '10	Dr. E. W. Weis.....	1,151.00
Jan. 1, '11	Interest	30.00
Feb. 11, '11	Dr. E. W. Weis.....	734.00
May 4, '11	Dr. E. W. Weis.....	2,968.00
May 6, '11	Dr. E. W. Weis.....	878.00
Jan. 17, '12	Dr. E. W. Weis.....	962.00
May 6, '12	Dr. E. W. Weis.....	868.00
June 5, '12	Dr. E. W. Weis.....	2,876.00
June 8, '12	Certificate of deposit.	2,000.00
June 8, '12	Interest	30.00
July 1, '12	Savings fund	1,500.00
July 1, '12	Interest	208.15
		<u>\$29,423.15</u>

DISBURSEMENTS

Sept., '08	Dr. H. N. Moyer.....	\$1,000.00
Dec., '08	Dr. H. N. Moyer.....	1,500.00
June 23, '08	Dr. H. N. Moyer.....	1,500.00
Jan. 11, '09	Dr. H. N. Moyer.....	1,500.00
June 9, '09	Savings fund	1,500.00
June 9, '09	Certificate of deposit.	2,000.00
Sept. 28, '09	Dr. H. N. Moyer.....	1,500.00
Dec. 15, '09	Dr. H. N. Moyer.....	1,500.00
April 23, '10	Dr. H. N. Moyer.....	500.00
Dec. 7, '10	Dr. H. N. Moyer.....	2,000.00
Feb. 11, '11	Dr. H. N. Moyer.....	1,000.00
May 5, '11	Dr. H. N. Moyer.....	2,000.00
Dec. 16, '11		<u>\$20,500.00</u>
June 27, '12	Dr. H. N. Moyer.....	2,000.00
	Dr. H. N. Moyer.....	1,000.00
July 9, '12	Bal to Dr. Carl E. Black	<u>\$8,923.15</u>

RECEIPTS AND DISBURSEMENTS

DR. H. N. MOYER

ILLINOIS STATE MEDICAL SOCIETY

Oct. 1, 1906, to June 30, 1913, Inclusive

RECEIPTS

Illinois State Medical Society.....	\$19,100.00
Court costs paid and refunded.....	634.45
Chicago Homeopathic Medical Society.	81.00
Donation	5.00
Sundry	1.00
	<u>\$19,821.45</u>

DISBURSEMENTS

Attorney fees, court costs, witnesses' expenses, etc.....	\$17,230.11
Books	58.00
Exchange	10.65
Office supplies	53.19
Postage	55.16
Stationery and printing	59.15
Stenographers' services	1,753.00
Sundry	54.80
	<u>\$19,274.06</u>

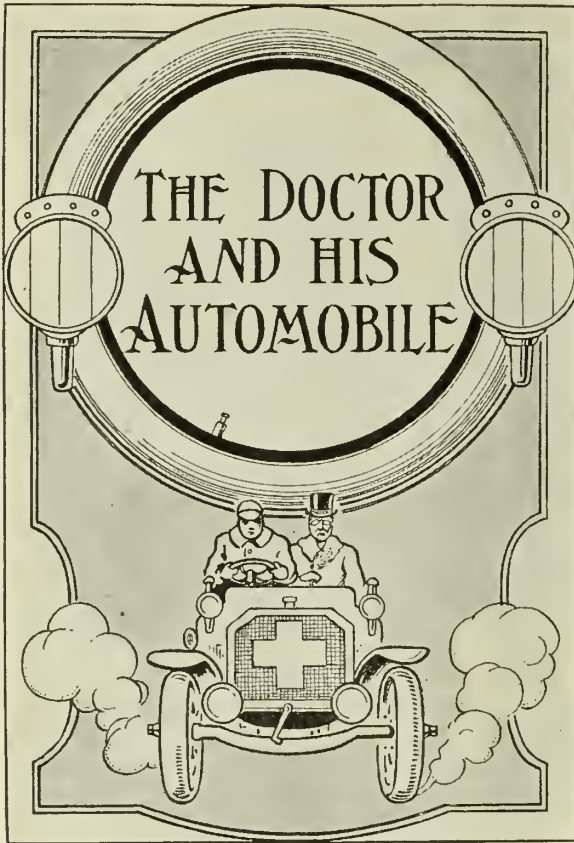
June 30, 1913, Balance on hand..... \$ 547.39

MISSING VOUCHERS

DR. H. N. MOYER

ILLINOIS STATE MEDICAL SOCIETY

Oct. 1, 1906—Postage	\$ 1.00
Oct. 10, 1906—Postage	2.00
Oct. 12, 1906—Exchange .....	.25
Oct. 13, 1906—Postage	4.48
April 6, 1907—American Medical Assn., Reprints..	3.00
June 19, 1907—Postage	1.00
Aug. 7, 1908—Exchange	1.10
Sept. 19, 1908—Postage	2.00
Jan. 13, 1909—Exchange	1.10
April 24, 1909—Dr. H. N. Moyer, Expenses	22.50
Sept. 29, 1909—Exchange	1.10
Dec. 1, 1909—H. N. Moyer, telegrams, postage, etc.	5.40
Dec. 16, 1909—Exchange	1.10
Jan. 12, 1910—E. L. Lamoreaux, Steno. salary for December, 1909, and January, 1910	40.00
Jan. 12, 1910—Postage	2.00
Feb. 24, 1910—Postage	2.00
April 3, 1910—Dr. H. N. Moyer, expenses to Indianapolis	62.50
Dec. 12, 1910—Dr. H. N. Moyer, expenses to Springfield	23.80
Dec. 12, 1910—Exchange	1.50
Feb. 13, 1911—Exchange .....	.75
June 2, 1911—Exchange	1.50
Jan. 3, 1912—Exchange	1.50
Jan. 17, 1912—To Mr. Vernon Willoughby.....	67.00
Jan. 22, 1912—Typewriting .....	.50
Jan. 22, 1912—Folders .....	.35
Jan. 24, 1912—Paper and folders	2.45
Jan. 28, 1912—Saylor, stenographer	25.00
April 20, 1912—Saylor, stenographer	20.50
May 3, 1912—Saylor, stenographer	23.00
June 30, 1912—Saylor, stenographer	30.00
July 31, 1912—Postage	4.00
July 31, 1912—Stationery	8.00
July 31, 1912—Saylor, stenographer	23.00
July 31, 1912—Exchange .....	.75
Aug. 31, 1912—Stenographer	30.00
Sept. 30, 1912—Stenographer	25.00
Oct. 31, 1912—Stenographer	25.00
Nov. 30, 1912—Stenographer	30.00
Dec. 31, 1912—Stenographer	23.00
Jan. 7, 1913—Special letter	6.00
Jan. 17, 1913—Postage	4.00
Jan. 17, 1913—Supplies	1.80
Nov. 7, 1912—To Bloomington and expenses.....	57.00
Jan. 31, 1913—Stenographer	23.00
Feb. 28, 1913—Stenographer	23.00
Mar. 31, 1913—Stenographer	23.00
Feb. 28, 1913—Postage	4.00
April 20, 1913—Stenographer	20.00
May 20, 1913—Stenographer	18.00
June 5, 1913—Chicago Medical Book Co., books...	2.00
June 30, 1913—Stenographer	18.00
June 30, 1913—Stenographer	21.00
June 30, 1913—Postage	4.00



Auto Sparks and Kicks

With each issue of *THE JOURNAL* there appears on this page items of vital interest to physicians whose use the automobile. Items of that nature solicited.

FOR EASY STARTING

Priming cups placed near the cylinders in the manifold, and priming fluid composed of half gasoline and half ether will make your engine start easily in cold weather.

TOO EASY STARTING

One of the dangers incidental to the use of the electric starter is the facility for starting the car it places in the playful hands of meddling children. Removal of the switch plug should become a habit.

SHOCK ABSORBERS

Shock absorbers are rapidly becoming a necessity rather than a luxury and the automobile engineers of to-day are realizing more and more that an unassisted leaf spring cannot support the reflexion or recoil of a suddenly applied load. —*The Automobile.*

A COUPE ADVANTAGE

A great advantage of a coupé body is the insurance against death from crushing in case the car is overturned.

AXLE STRAIN

The most severe strain that can be placed on a rear axle or driving gear is from efforts to get out of a mud hole by backing up a little and then rushing forward on slow gear.

REPLACING SPARK PLUGS

Spark plugs should not be forced into position by severe wrench action. They should seat firmly against a copper-asbestos gasket with but little more force than can be applied with the fingers.

TIRES COST MONEY

The cost of keeping tires repaired and renewed is the greatest item in the up-keep expense.

Why do tires blow out? Why do they wear out so soon? Simply because they are not kept inflated to the proper pressure.

Very few motorists get from their tires the mileage they pay for and which any good make tire would give if kept properly inflated.

Looks deceive. One of the strange things from the point of view of the autoist of limited experience is that a tire with an air pressure of 35 pounds per square inch looks as well inflated as one that has 90 pounds pressure. If run at the former pressure, however, the tire will flex out after a few hundred miles running, whereas if maintained at 90 pounds it will run from 5,000 to 10,000 miles.

The only way to get long service from your tires is to know that the tires are kept properly inflated at all times.

The reason is very clearly explained:

"The side walls are the weakest part of a pneumatic tire, for here most of the bending action takes place. The more the side walls are kneaded or bent, the sooner they will break down and separate. If a tire is run partially inflated, this kneading action is violent and the tire is bent sharply every time it hits an obstruction. If the tire is kept properly inflated, the converse is true. A tire may be perfectly round under load and yet have only 45 pounds of air in it when it should have 90. The use of a reliable air pressure register is the only way to determine accurately whether or not the tires are properly inflated."

Society Proceedings

CLARK COUNTY

Clark County Medical Society met in the M. E. Church, Westfield, Ill., Aug. 14, 1913, at 2 p. m. Members present: McCullough, Johnson, Haslit, R. H. Bradley, Anderson, Pearce, Hall, Marlow and Weir. Visitors: Drs. Hinkley of Westfield and F. Buckmaster of Effingham.

Dr. R. H. Bradley read Dr. S. C. Bradley's well prepared paper on "Antityphoid Vaccination," reviewing the literature or history of this valuable vaccine and urging its use.

Dr. Marlowe considers it a preventive of importance and thinks it may prove curative also.

Dr. Buckmaster would use it much for immunizing, when people are exposed.

Dr. Johnson recited his observation in a family where two members were vaccinated and had no infection and the others got typhoid fever from the well water. No reaction from vaccine was observed except one had local infection, possibly incidental from other germs.

Others participated in the discussion, recommending the use of antityphoid vaccination, but suggesting care in using all vaccines urged on the profession, except those well understood and plainly indicated.

Dr. Bradley described his experience with vaccine in one well man who had very little reaction and no typhoid. Another case in active fever seemed to be benefited with no untoward symptoms.

Dr. Marlowe reported further on his case of uremia in pregnancy; premature delivery was made and woman and baby are doing fairly well.

Dr. Hinkley reported a case in which a catheter was introduced into the uterus to produce abortion. After twenty-four hours the catheter was removed and introduced another twenty-four hours and woman went on to term.

A minimum fee bill of \$5 for giving the three doses of antityphoid vaccine was adopted.

Society adjourned. L. J. WEIR, Secretary.

ANTITYPHOID VACCINATION

S. C. BRADLEY, M.D., MARSHALL, ILL.

The only phase of typhoid fever which I have not heard thoroughly discussed at our meetings is antityphoid vaccination. Therefore I have chosen this subject to get it before the society for discussion.

First let me quote the well known statistics of the United States Army during the Texas maneuvers, March to July, 1911. This was the first general compulsory use of the vaccine as the previous ones had been voluntary. At the largest camp, at San Antonio, there were nearly 13,000 men stationed. All not previously treated were vaccinated. Among the 13,000 men there developed one case of typhoid and he recovered. The camp was kept in as good sanitary condition as possible, but the men had free access to the city, eating and drinking in all sorts of places. In San Antonio during the four months of the camp there were reported forty-nine cases of typhoid with nineteen deaths. Compare this one case and no death with the 2,693 cases and 248 deaths from typhoid during a four or five months' camp of about 10,000 soldiers at Jacksonville, Fla., in 1908, without vaccination.

Such examples of the value of the vaccine could be given by the dozen, for recent literature is full of them. The results are as striking in civil life as in the army and navy. In the latter, last year, there were only three cases of typhoid and no deaths.

The only poor results seen were in the Boer war, where 100,000 British soldiers were vaccinated, but typhoid was not much decreased. There was a reason. The vaccine was not properly made, being heated far too much to give good results.

The vaccine is a culture of typhoid bacilli, killed by heating to only 127 F. for one hour and then 0.25 per cent. tricoresol is added to make sure of the sterility of the vaccine.

The vaccination, to be complete, must consist of three injections given ten days apart. The first dose is one-half billion bacilli, the second and third are each one billion.

The reaction is usually very mild, consisting of a large sore area at the site of injection, slight or moderate fever, sometimes slight aching all over, all of which are gone in twenty-four to forty-eight hours. In all the literature which I have read there have been absolutely no dangerous reactions after the injections.

With this much proved, that it is harmless, that it gives immunity from typhoid infection, its application to our cases becomes clear. We must give it to all children and young adults who live in or are going into a neighborhood where typhoid is prevalent; we should give it to all, of any age, who are directly exposed to cases of typhoid. From my reading and from my own experience I believe it should also be given to all cases of typhoid fever seen during the prodromal stage or during the first week of the fever, at which time there are still few or no bacilli in the blood stream. We have not nearly as much information as we should have on its value after the onset of the fever, because in all the immunizing tests no case was allowed to take the vaccine unless perfectly well. This gave better records in its early trials, but limited our knowledge of its uses. However, it was accidentally given in some cases in the prodromal stage, with the result that they ran very mild courses.

There is one danger in the use of so efficient a preventive of typhoid fever, namely that those about a typhoid case, being vaccinated and feeling themselves immune, may neglect to take all the usual sanitary precautions to prevent its spread. Vaccination is only one phase in an evolution, a make-shift to protect us until we learn to eradicate typhoid completely by more perfect sanitary control of all typhoid cases and other sources of typhoid infection.

In conclusion might I suggest that if any members of our society will use the vaccine in their typhoid cases this fall, they keep accurate records of their cases, and let some member of the society summarize the records and results in a paper next spring.

CLINTON COUNTY

The Clinton County Medical Society held a meeting August 12, at Trenton, with the following program: Dr. E. W. Fiegenbaum of Edwardsville gave an address on "Organization." Dr. J. O. Roane, Carlyle, read a paper on "Puerperal Infection." This paper was discussed by Dr. J. W. DuComb of Beckemeyer. Dr. A. W. Carter, Trenton, read a paper on "Summer Diseases of Children." Discussion by Drs.

O. O'Neil of Shattuc and L. Niess of Trenton. This was a very good meeting, the address by Dr. Fiegenbaum being especially noteworthy. Dr. Phil. Griesbaum of Lebanon attended as a visitor.

L. NIESS, Secretary.

COOK COUNTY

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Regular Meeting, March 18, 1913

A regular meeting was held, with the president, Dr. J. Gordon Wilson, in the chair.

Dr. C. H. Long reported a case of "Stenosis of the Right Auditory Meatus."

Dr. J. Holinger presented a series of specimens of "Otosclerosis."

Dr. J. Gordon Wilson presented specimens showing gross lesions of the middle ear. He also showed a young man on whom he had recently operated for acute mastoid and temporo-sphenoidal abscess.

Dr. Otto T. Freer showed an esophageal bougie fitted with a wax spindle-shaped enlargement for dilatation of cicatricial strictures of the esophagus.

Dr. Joseph C. Beck discussed Dr. Wilson's case.

Dr. Shambaugh reported a case of brain abscess recently under his observation. This was discussed by Drs. Freer, Fletcher and Hawley.

Dr. Fletcher demonstrated a case of double fistula of the ears and another case of destruction of the function of the labyrinth following a radical mastoid operation. He then read the following paper:

CLINICAL VESTIBULAR NYSTAGMUS

JOHN R. FLETCHER, M.D., CHICAGO

It is quite important, in familiarizing ourselves with the use of vestibular nystagmus in otology, to remember that there are many cases which do not come under the rules and that all cases of this type of nystagmus do not originate in the ears—that is, they are extracranial, as, for instance, the nystagmus with vertigo from auto- and other intoxication, uterine vertigo, etc. No direct ear symptoms and none pointing directly to the cranial contents will speedily put us right on these cases. Other cases, manifestly of the gravest, are at present quite beyond diagnostic certainty and are helped but little by the symptom under consideration. However, in diagnosing and differentiating serous and suppurative, circumscribed and diffuse, manifest and latent labyrinthitis; hyperemia and anemia of and hemorrhage within the labyrinth, and retrolabyrinthine diseases from one another and from non-otologic diseases, its place is well fixed and its value great. The patients we see are referred or come of their own accord; we are asked to see the first because of the nystagmus, and are consulted by the second because they have vertigo. They know nothing of the nystagmus, but for various reasons believe their vertigo comes from the ear or nose, as, for instance, the first patient demonstrated by him that evening, who came complaining of brief attacks of severe vertigo, with sometimes nausea whenever he blew his nose. Careful examination determined beyond doubt that he had a fistula in both ears, which is uncommon, and, further, that but one of them is affected by the nose-blowing. We learn the latter from the fact that performing the fistula

test on the left side produces nystagmus in the same direction, as by blowing the nose, but its velocity and excursion are not so great. If we make the same test on the right, the result is identical with the nose-blowing. This and the unique fact that the route of the air current from the Eustachian tube can be followed with the eye make it certain. In addition, a pinhole perforation of the closely adherent left drum-head, directly over the oval window, designates the site of the fistula. Moreover, this perforation would allow air coming from the tube to escape. Another point to make is that gentle pressure over the site of the perforation with a probe wound with cotton causes nystagmus, much the same as the fistula test. The latter is made by carefully blowing air into the external auditory canal through a hollow olive-shaped hard rubber point from a small rubber bag and tube.

Of the three clinical tests the fistula test, turning, and the caloric test, the latter is the most constantly useful. The speaker's second patient brings out this point quite well. Her response to the fistula test is negative, though one is visible on the right and freely exposed to the pressure of air *because* of tubal closure after the radical mastoid operation. She is totally deaf in this side. Schwabach localized in the left; Rinne negative. She responds very slightly to turning either to right or left—so slightly that unless very closely observed one might report the response absent. Her response to the caloric test on the right is negative. All these facts signify beyond a doubt total functional inactivity—a functional death of the right labyrinth. The whole exposed lateral labyrinth wall was irrigated with ice water for a long time, without result. The same water used in the left ear caused horizontal and rotary nystagmus to the diseased side, but not so promptly nor so vigorously as in the normal person. Quite warm water caused to flow into the left ear caused a rather feeble rotatory nystagmus to the good or irrigated ear. These caloric tests to the left ear tell us that her left labyrinth is functioning. If we had no other information than the caloric test given us, we could safely diagnose a dead labyrinth on the right and a functioning one on the left, though the left response is normal only in the direction and plane of the nystagmus, not in quickness and degree. In other words, what is known as readjustment has taken place—the good labyrinth is somewhat less keenly doing the work of both. Their action and reaction on each other has been lost—there is no longer synchronism. The normal reaction to turning a patient ten times around the vertical axis is nystagmus in the direction of turning during turning and in the opposite direction after turning. In turning this patient to the right there is no after-nystagmus, and the usual vertigo is absent. In turning to the left the after-nystagmus is so slight as to amount almost to nothing. When we use the turning test to discover pathologic labyrinthine conditions, the rule is that if one labyrinth gives an after-nystagmus of at most half the duration of the other, the labyrinth giving the short-enduring reaction is pathologic. In this case one does not respond at all and the other barely. We may interpret this as nothing equaling the half or less of almost nothing; that is to say, within the rule. Turning must always be used in case of dry perforations, as irrigation is not to be thought of on account of the danger of causing acute suppuration. Of course, the caloric test may be made

with clean air, warm or cold, or any other cleanly method which may be devised to change the temperature of the labyrinth wall except the use of fluids, as above. The turning tests of Dr. Fletcher's first patient have not been made, as he objects strongly to the vertigo.

Let us suppose a patient complains of vertigo coming on in attacks of from a few seconds to a few hours' duration, of a light or relatively severe grade, with the history of an old chronic suppurative otitis media. We must examine for spontaneous nystagmus by directing the patient to look to the extreme right and left without turning the head. If in this eye position we find nystagmus directed to one or both sides, we may regard the case as circumscribed labyrinthitis; but to make the diagnosis more certain the caloric reaction should be positive, with change of direction of the spontaneous nystagmus to the use of cold when to the right, and of warm water when to the left. There should be a response to the turning test, with the comparative difference mentioned above. The hearing test should be positive. The fistula test should be made and will usually be found positive, though a fistula may be present without a positive response to the test, due either to the escape of the air or to some obstruction to pressure, such as cholesteatoma, granulations, etc. "Diffuse serous labyrinthitis occurs in acute suppurative otitis chronica, suppurative otitis media, and follows the radical mastoid operation. The characteristic nystagmus is toward the sound side, rotatory and severe. Not infrequently the circumscribed changes to diffuse serous or diffuse suppurative labyrinthitis. The question of a labyrinth operation is thrust before us, and is settled by the differential diagnosis. In both cases the nystagmus will be directed to the sound side and is severe. If any sign of functional activity of the diseased side remains, namely, response to the caloric, turning, fistula and hearing tests, the case is one of serous labyrinthitis. Diffuse suppurative labyrinthitis is totally destructive and very dangerous to the cranial contents. In such case there is no response to tests, and so far as they are concerned we must diagnose diffuse suppurative labyrinthitis. Unfortunately, we have reports of operated cases in which all reactions failed which were not suppurative, and others in which the labyrinth operation was done which recovered. We must, therefore, conclude that the serous labyrinthitis sometimes causes the picture of diffuse suppurative. These cases cannot be clinically differentiated from the diffuse suppurative. There is a great deal more to be said about serous labyrinthitis, but as we are dealing more particularly with the symptom, nystagmus, from the clinical standpoint, it may be well not to go too far afield, but proceed to the next and most dangerous disease of the labyrinth, namely, diffuse suppurative labyrinthitis.

No picture is quite the same as that of the serous. Severe vertigo, nystagmus to the sound side, nausea, vomiting and disturbance of equilibrium. This is the manifest type. Latent diffuse suppurative labyrinthitis progresses more slowly. The history will show complaint of attacks of vertigo at intervals of greater or less time through the course of years. There will be no response to any of the function tests of the labyrinth—hearing test negative, function test negative, turning test negative, and no fistula symptom. The only possible symptoms are, first, very

small spontaneous rotatory nystagmus, both right and left, when the glance is in these respective extreme directions. Second, the marked difference in the duration of the after-nystagmus following turning to the right and left, head erect. Ruttin gives the difference as from one to three to six. Let us suppose the right labyrinth to be the seat of the trouble—so long as true compensation, as defined by Ruttin,¹ has not taken place, the result of turning ten times to the right, head erect, will be an after-nystagmus to the left of from fifteen to thirty seconds' duration, while turning to the left, used in like conditions, created an after-nystagmus of about five seconds' duration. When complete compensation has taken place, that is, when not the least particle of function remains in the diseased labyrinth, the sound side assumes the function of both sides, but somewhat less acutely, as follows: The after-nystagmus following ten turnings, either to the right or left, head erect, in the opposite direction to turning for ten to fifteen seconds. In other words, the after-nystagmus again becomes equal to both sides, differing from the normal in that its duration is reduced to one-half or one-third or less. The sound labyrinth does all of the work, but is only able to produce half the result in point of duration. Several authors have reported necrosis with sequestration of a part or the whole of the labyrinth. These cases, of course, are latent suppurative labyrinthitis and sequestration may be considered the last symptom, unless we add facial paralysis, which now takes place. Ruttin mentions two cases in the book above named in which the fistula symptom was present after sequestration, showing that some filaments of the nervous end organ yet remained. The early picture seen in traumatic destruction or hemorrhage into one labyrinth is quite the same as in diffuse suppurative and extreme serous labyrinthitis, but here we are not dealing with a case of old suppurative otitis media, while circumscribed serous and suppurative labyrinthitis of necessity follows otitis media. On the other hand, it must not be forgotten that an otitis media may follow the trauma. The trauma caused by the radical mastoid operation not infrequently converts a circumscribed into a diffuse labyrinthitis. The nystagmus characterizing (though we rarely see it) the circumscribed labyrinthitis should not change after the radical operation. If it does, it is spontaneous rotatory and directed to the sound side. The great question, then, to be decided is between the serous and suppurative diffuse labyrinthitis. Clinically, to-day we must consider all cases showing no reaction to the fistula symptom, hearing, caloric and turning tests, with strong nystagmus to the sound side following chronic suppurative otitis media, diffuse suppurative labyrinthitis. The accompanying symptoms of nausea, vomiting and disturbances of equilibrium are, of course, usually present.

While the above relating to nystagmus is the rule, in a considerable number of cases of suppurative labyrinth destruction there is a horizontal nystagmus to the diseased side. Further, the nystagmus to the sound side may be compound: that is, both horizontal and rotatory. When there is a nystagmus to both sides, by glancing in the extreme direction, one may be confused who thinks of the rule that

1. Ruttin: *Klinik der Serösen und eitrigen Labyrinth-Entzündungen.*

nystagmus is increased when the patient glances toward the quick component and decreases or stops completely when the glance is in the opposite direction. An important fact is that the nystagmus emanating from the labyrinth is strongest at the beginning, gradually growing weaker and weaker until it ceases completely.

It is difficult to write of clinical nystagmus and keep strictly to the text when it comes to the consideration of serous and suppurative labyrinthitis, because the nystagmus is the same in both cases during the time when the differential diagnosis must be made, if possible, though the attempt has been made to direct attention to the nystagmus throughout the paper. The real danger to the life of the patient is through intracranial, that is, extralabyrinthine, complications, of which there are two in particular, from labyrinthitis, abscess and meningitis. Fortunately the nystagmus serves us here and that, too, in the midst of the symptom storm.

In cerebellar abscess the nystagmus may be directed to the sound as well as to the diseased side. Characteristic for this nystagmus is it that as the disease progresses the nystagmus becomes more intense, ultimately reaching such a grade as is never seen in labyrinth disease.² In labyrinth disease the nystagmus to the sound side predominates and, last, after that which may have been directed to the diseased side ceases. If this nystagmus suddenly changes to the sound side and is strong, with tendency to increase rather than diminish, cerebellar abscess may be diagnosed confidently. Other cases may be doubtful, but this may be said with certainty that if the complete labyrinth operation has been done and nystagmus persist to the diseased side, there is an intracranial complication.³ Baranay says: "Is the right vestibular apparatus unirritable, with a strong rotatory nystagmus to the right, so is the same caused by an intracranial disease." A dead labyrinth cannot originate a nystagmus toward its own side; therefore, the irritation must come from somewhere along the course of the vestibular nerve or its center.

The differential diagnosis between cerebellar abscess and meningitis of the posterior fossa cannot be made by means of the nystagmus. It is, in fact, usually difficult, though the other symptoms are the real guide and frequently do not fail us.

To those who wish to follow the subject more deeply Neumann's "Der Otitische Kleinhirnsabszess" will be of great value.

DISCUSSION

Dr. William L. Ballenger said the average otologist was very much confused by the theoretical problems presented in a study of this question. As a matter of fact, there is one class of cases at least that can be diagnosed without knowing anything about nystagmus, as, for example, latent diffuse suppurative labyrinthitis, with total deafness and a history of a vertiginous attack at one time in the past—it may be weeks, months or years previously—and nystagmus might have been observed at that time. Since that time there has been total deafness and a discharging ear. Those cases are referred to as diffuse suppurative latent labyrinthitis. One might be able to make a diagnosis of a case of that sort even if he has not

made a study of the deeper problems presented by Dr. Fletcher. It is easy for an otologist to know that he has a case of total destruction of the labyrinth. If we have, then, a case with a chronic discharge and the patient more or less deaf, the noise apparatus, the stream of water or the tuning-fork, as suggested by Dr. Pierce, inserted into the meatus, we can determine whether a patient has total destruction or not, and then, with a previous history of a vertiginous attack, we can arrive at a fair estimate that we have a case of diffuse suppurative latent labyrinthitis. So there is one type of case that may be fairly well diagnosed without the classical tests. Dr. Ballenger referred to a case under his observation at the present time of that type, which had been operated on ten or twelve years ago—three times within a period of a year or two—for mastoid disease. This man did not know he was totally deaf in the ear operated on, and the speaker did not know it until he had been around the office for two years. He had been treating him for frontal sinus disease, and had done an operation on him for it. One day he complained of dizziness, which aroused Dr. Ballenger's suspicions. He used the noise apparatus, and found him totally deaf in the operated ear.

So the problem is not so complicated as at first thought. It is true that these more theoretical aspects of the subject must be mastered before we have complete mastery of the subject, but it has been his desire to approach the subject from the simpler standpoint. He has seen nine labyrinth cases during the past year—most of them of the latent type, with a history of vertiginous attacks eight or ten years previously. Rutin says that when the labyrinth has been long destroyed we may get complete compensation; that is, the nystagmus after the turning test is equal in either direction, though of shorter duration than in normal cases.

Dr. Norval H. Pierce said that Dr. Fletcher had presented the known facts that can be used in clinical work very well. He did not think he had anything to add. He carries out the examinations about as Dr. Fletcher does.

Dr. Robert Sonnenschein asked whether a Wassermann had been made in the case of the woman who had lost the reaction to turning, but still had the caloric. At a meeting of the Vienna Otological Society, held about two years ago, Neumann stated that the fact of loss of turning reaction and retention of caloric reaction almost suggests lues.

Dr. Fletcher said the woman had had an abdominal trouble for which she was operated on. Wassermann was made and was negative.

Dr. George E. Shambaugh stated that there is usually no difficulty in recognizing an involvement of the labyrinth in connection with suppurative middle ear disease. If the labyrinth involvement develops suddenly, there are symptoms of disturbed equilibrium, including nystagmus, which are always present. If the labyrinth involvement is one of long standing, especially where there has been a destructive process, the symptoms of disturbed equilibrium may be largely absent, but in these cases the labyrinth involvement can be diagnosed by the fact that the function of the labyrinth on that side is destroyed. In these cases of labyrinth involvement there may be some confusion in deciding on the proper treatment. Dr. Shambaugh thinks that the most important thing clinically is to determine when an operation on the labyrinth

2. H. Neumann: Zur Differential Diagnose von Kleinhirnsabszess und Labyrintheiterung.

3. Physiologie und Pathologie (Funktions-Prüfung) des Poyengang-Apparates beim Menschen.

is indicated and when it is not. In all cases of acute labyrinthitis where the disease stops short of a complete destruction of the function of the labyrinth, all are at present agreed that no operation on the labyrinth is called for. These cases are usually classified as cases of serous labyrinthitis and unless they develop into diffuse suppuration of the labyrinth the development of an intracranial complication is extremely unlikely. It is only in cases of diffuse suppuration of the labyrinth, where there is already a complete destruction of the labyrinth function, that the question of a labyrinth operation is at all considered. In view of the large number of cases which recover spontaneously after a diffuse suppuration of the labyrinth, the question naturally arises whether we are able to make a distinction clinically between the cases of diffuse suppuration of the labyrinth which call for a labyrinth operation and those in which a labyrinth operation may not be performed.

In examining cases where there has been a long-standing purulent otitis media one frequently discovers a totally dead labyrinth. It is not necessary to subject all of these cases to a labyrinth operation. It seems probable that only those cases of chronic, purulent otitis media, where the indications exist for a radical mastoid operation, that is, where there is an invasion of the temporal bone, with or without cholesteatoma formation, that the labyrinth operation should be performed. The question may not be so simple in cases where one observes in purulent otitis media the development of an acute labyrinth suppuration. There are some who believe that in all of these cases the labyrinth operation should be immediately performed. The speaker has not been able to subscribe completely to this opinion. He referred to a case that he had observed over a year ago who had what appeared clinically to be a mild acute otitis media with no severe pain and very slight rise in temperature. The patient recovered from a sudden destructive labyrinth involvement without an operation either on the mastoid or the labyrinth. Testing the ear one year later showed that there had been no return of function. In a similar way he had recently observed in a case of chronic purulent otitis media the sudden incomplete destruction of the vestibular part of the labyrinth. This case was not operated on. The type of the middle ear suppuration clearly indicated a process which had not invaded the temporal bone. There was no evidence of caries or cholesteatoma. There was a large, central perforation and a history of recurring acute exacerbation of middle ear inflammation running over a number of years. The patient made a good recovery, but there was no return of function to the semicircular canals. The speaker believes that in many cases of acute labyrinth destruction from suppuration one may defer an operation on the labyrinth awaiting the development of the first symptoms indicating an intracranial extension. Of course, in cases where the clinical conditions already indicate the necessity for a mastoid operation, whether these symptoms occur in a case of chronic or in a case of acute otitis media, the mastoid operation should be performed and at the same time the operation on the labyrinth should be done.

Dr. Ballenger did not think it was right to let Dr. Shambaugh's statement stand. He operated on a mastoid case several years ago and did a radical mastoid. The man had total deafness at that time—

had diffuse suppurative labyrinthitis. The patient lived for five years in comparatively good health, but five years after the radical mastoid he died of meningitis. It is not safe to allow such cases to go without a radical labyrinth operation. Sooner or later meningitis or brain abscess is liable to occur. The labyrinth operation can do no harm, provided the operator knows the technic. We would not allow a chronic mastoiditis to go on indefinitely without operation, and there is infinitely more reason why we should not allow a labyrinth that is totally destroyed to go on indefinitely without operation, as intracranial complications are always liable to occur at any time. If operated, these cases are safe in that respect.

Dr. Shambaugh stated that in the case reported by Dr. Ballenger, where there was a long-standing destruction of the labyrinth, no labyrinth operation was called for unless the indications existed for a radical mastoid.

Dr. Joseph C. Beck said that the conservatism expressed by Dr. Shambaugh was certainly welcome, from a man who knew so much about the question as Dr. Shambaugh. He had seen such a case as the one referred to by Dr. Shambaugh as cured that developed a very severe labyrinthitis, with irritation of the dura, or meningeal irritation. He would certainly not operate on the labyrinth, but on the mastoid process.

Dr. Beck asked Dr. Fletcher whether, in the case of the man exhibited, with two fistulae, since this is an indication for operation, he would do bilateral radical operation in this case.

Dr. Shambaugh stated that in cases of acute otitis media where acute labyrinth symptoms developed, even when these symptoms indicated clearly a complete destruction of labyrinth function, he was not prepared to operate either on the mastoid or on the labyrinth unless indications were present for a mastoid operation or unless the patient developed symptoms indicating an intracranial extension.

Dr. Norval H. Pierce said that it is his custom, in cases of acute or chronic otitis media, in which acute labyrinthitis symptoms arise, never to operate on the mastoid for a simple mastoid or for a radical mastoid while those active symptoms are present, unless there are increasing meningeal symptoms. For proof of this he depends largely on lumbar puncture. He invariably allows these patients to remain in bed until all active symptoms have subsided, such as dizziness, vertigo, etc. In quite a series of cases he has not been disappointed in this method. Before adopting it, however, he was largely disappointed in the outcome of operations undertaken at the time of active labyrinthine irritation. He has seen fatal cases result from opening the labyrinth in the face of the active manifestations in the labyrinth, and he believes that we do not insure safety to the patient by simply opening the labyrinth. He believes that a given inflammation of sufficient virulence and clarity will proceed to the meningeal serous spaces, irrespective of whether we open the labyrinth or not. He, therefore, depends largely in these cases, while the labyrinth symptoms are in progress, on the chemical and cytological examinations of the cerebrospinal fluid. In the absence of changes in the cerebrospinal fluid the patient remains in bed at rest. They practically invariably recover from the active inflammation in the labyrinth, and then he proceeds with the radical operation, but very rarely feels called on to

open the labyrinth—very rarely. He thinks the terms serous labyrinthitis and suppurative labyrinthitis are misleading in a clinical sense. They have to do largely with the character of the inflammation, and you cannot always tell at the clinic whether it is a pure serous change or whether it is a suppurative change.

The point he wished to make is that he supports the position that we should not operate in the presence of a stormy, acute labyrinthitis, whether it is serous or not, whether there is a fistula or not, unless there are indications of advancing meningeal involvement. If there are such symptoms he would open the labyrinth and drain the subdural spaces. In a chronic otitis media with a quiescent, destroyed labyrinth and a demonstrable fistula or sequestrum, he would open the labyrinth.

Dr. J. Gordon Wilson said that he was sure the society appreciated the review given by Dr. Fletcher of the clinical applications of nystagmus. The rules given by Dr. Fletcher are of very great use. But one must recognize their limitations and desire more definite information. This, he fears, we are not likely to obtain in the first place from man. Here the conscious element is ever coming into play, modifying and sometimes making negative our findings. It has always appeared to him that we must look to the physiologist for the fundamental rules governing nystagmus.

The side of nystagmus that has interested him particularly has been the experimental. Here one sees that the fundamental facts of labyrinthine nystagmus are relatively simple. In discussing nystagmus one difficulty constantly met with is that we fail to recognize that we are referring to two different things, a slow deviation which is labyrinthine, the quick return which is extralabyrinthine. All our tests should have this in view. Thus he would rather that Dr. Fletcher spoke of the patient with labyrinthine disease falling in the direction of the slow movement of nystagmus. In man the falling in cerebellar lesions does not follow any such definite rule.

The careful observation of nystagmus in differential diagnosis is extremely important; for instance, in the differential diagnosis between cerebellar and labyrinthine disease. Here again the fundamental rules which will guide us must come from animal experimentation. For in man so many other influences may arise to complicate results. Thus in cerebellar abscesses, for instance, we have absorption of toxins, pressure on the vestibular nerve, etc. Let us aim to get the fundamental rules; then we can learn to eliminate the unessentials.

Dr. Fletcher, in closing, referred to Dr. Ballenger's remark that "we can so easily, without these tests, diagnose a latent suppurative labyrinthitis," and later said that "he was very much astonished after a long time that the patient had vertigo." That means that he never had acute labyrinthitis. He had serous labyrinthitis, because just exactly those cases recover, and the patients can again have symptoms of circumscribed labyrinthitis, such as attacks of vertigo.

Dr. Lewy asked about the action on acute suppurative otitis media in which there was a fistula present. The speaker was sure, from his own personal experience, that he could not answer this question, because he had never seen a case of acute suppurative otitis media where there was a fistula present. He had seen labyrinth symptoms and vertigo, but had never been able to demonstrate a fistula in an acute case.

Dr. Shambaugh asked himself the question, Shall we operate when there is complete suppression of function? and determined that he would not. Then he referred to the case of the essayist as being a case of suppurative labyrinthitis. He would first speak about the operation.

Abroad, where they are trying to accomplish something, they maintain that we should operate, because it reduces the death rate. They have their statistics of many years' standing in which they did not operate on labyrinth cases, or very rarely. They did not recognize them—they did not know of symptoms that we now speak of as nystagmus and its accompanying symptoms. Dr. Fletcher's opinion is largely their opinion. He is inclined to follow them. What he saw when over there impressed him very much, and what he has seen since returning from there seems to agree with their statistics. The death rate is distinctly lower by operating during the stormy process; in other words, operate on a case that has been diagnosed with certainty as diffuse suppurative labyrinthitis. Barany and all say do not operate when it is serous. Sometimes they get brain symptoms. That is, the symptoms lead them to think that there may be a brain abscess. They operate on the labyrinth, and remove it as much as possible, and await results.

With the experience in Europe with a number of cases of serous labyrinthitis following operation, and with the fact that there is no pus coming from the fistula just now, he is inclined to think that the case is one of serous labyrinthitis rather than suppurative. He has not opened the labyrinth. In other words, while he follows the Vienna school, he also follows his own judgment somewhat. In this case he has seen no indications for an operation. He would not operate on a labyrinth because it was dead. That is a certainty.

The Vienna men say that we should operate on cases of diffuse suppurative labyrinthitis, because of the great frequency of the occurrence of meningitis and brain abscess in cases not operated on, and also because they consider the disease more dangerous than the operation. They, on the contrary, consider the operation more dangerous than letting the disease alone, providing you do not do the complete operation. Merely opening into the labyrinth is not the labyrinth operation. They consider, then, the trauma which has been done to the labyrinth infinitely more dangerous than doing nothing, unless you open all three semicircular canals, the vestibule and the cochlea. (The Numann operation.)

Dr. Beck asked about the other case, and that he has not operated on or suggested it. The Vienna school does not approve of that. Barany especially says to beware of an operation on one ear when the other one is diseased; in other words, he says, you take a chance. This man's hearing is very good. If on either side he should develop very strong symptoms, he certainly would operate—if those symptoms were not serous. If he develops a storm and has any hearing left, or if he responds to turning or to the caloric test in the ear which produces the storm, he would still not operate. But on the first sign of developing intracranial symptoms he would operate.

Dr. Pierce asked if he would operate in case of intracranial symptoms, whether there was function or not, to which Dr. Fletcher replied, yes, whether there is function or not.

Replying to Dr. Wilson's remarks on the nomenclature—Barany objects to that sort of thing. This has been discussed a good deal abroad, and they think they had better retain the present nomenclature, although the speaker quite agreed with Dr. Wilson that it would be very much better to speak of vestibular component.

DOUGLAS COUNTY

The Douglas County Medical Society held their bimonthly meeting at Patterson Springs Chautauqua Grounds, Camargo, July 18, at 2 p. m. All physicians, dentists, attorneys, ministers and editors and their wives of the county were invited. About two hundred were present and all expressed their desire to have this meeting an annual affair, whereby closer relationship might be fostered between the physicians and the members of other learned professions.

The following was the program for the afternoon: Our Visitors, or Why this Meeting, Dr. Phillip Herron, Villa Grove; Some Facts Along the Highway of History, Dr. J. L. Reat, Tuscola; Music by mixed quintette; Some Points on Establishing a County Hospital, Dr. W. S. Martin, Tuscola; Hereditary Environments, Rev. C. D. Henry, Newman; Where the Physician and Minister Join Hands, Rev. North, Arcola; Music: Lincoln Quartette, Tuscola; Eugenies, Prof. E. E. Gere, Co. Supt. Schools, Tuscola; Medical Economics, W. Thomas Coleman, state's attorney, Douglas County; The Relation of the Dental to the Medical Profession, Dr. Kennedy, D.D.S., Villa Grove; Oral Hygiene, Dr. Damron, Arcola.

WALTER C. BLAINE, Secretary.

EDGAR COUNTY

The Edgar County Medical Society met in regular quarterly session in the Odd Fellows' Hall, Chrisman, Ill., at 2 p. m., July 30, 1913, with Dr. W. S. Jones, the president, in the chair. The minutes of the last regular and called meetings were read and approved. The following physicians were elected to membership: F. M. Link, Paris; Harry Lyman, Vermilion; R. H. McKnight, Kansas; W. R. Apple, Paris; D. W. Frantz, Metcalf; O. R. Scott, Chrisman; J. F. Jennings, Scotland; J. L. Funkhouser, Chrisman; C. A. Handley, Brocton; J. O. White, Brocton; J. W. Martin, Oliver; F. E. Shipman, Paris, and William Halloran, Paris.

The regular program was then taken up, beginning with a round table talk on "Gravel, from the Standpoint of the Motorist." This table talk was really a discussion on the subject of good roads and was participated in by nearly every member present. Dr. T. C. McCord described some of the great highways of Europe, particularly those of Italy, Switzerland and England. The structure of these roads and their durability was fully considered, and the adaptability to the conditions of Illinois was fully gone into. Dr. J. O. White described the road making methods of Kentucky. Dr. Z. T. Baum described the methods adopted in Indiana. Dr. Roland Hazen the concrete roads of Long Island, N. Y. The different members then detailed the methods employed in Illinois. The discussion was very earnest, the doctors recognizing the great importance of the subject and the necessity for urging legislation on the same. The consensus of opinion was that in Edgar county the brick pavement

had proved the best of all methods tried. The members agreed to urge on the authorities the continuation of the work already so well begun.

"Gravel from the Medical Standpoint" was then taken up and the table talk on this subject was very interesting and instructive. Dr. Hazen took up the subject of "Calculi of the Gall-Bladder and Ducts" and presented a number of gall-bladders and biliary calculi to illustrate his discourse. He called special attention to the fact that in many cases pain was not a good criterion as to the gravity of the case, stating that to have strong spasms it was necessary to have a strong musculature to contract on the offending mass; and that with gall-bladder walls thinned and weakened, strong contractions were impossible; further, that many cases of disease which imperatively demanded operative measures gave a history of but little pain or spasm. Dr. Hazen also uttered a warning against awaiting for gall-stones to appear in the stools before determining the diagnosis and proceeding to operate. If the calculus was larger than the caliber of the ducts it could not pass, and if the walls of the gall-bladder were thin and weak the severe pain would not be present. In waiting for these symptoms to appear there was great danger of perforation and infection. Both the points were made clear by specimens illustrating the conditions under discussion. Dr. Baum called attention to the enormous number of calculi sometimes found in the gall-bladder. Dr. H. C. Kerrick spoke of the type and shape of the urinary calculi in relation to pain in passing through the ureter.

Dr. B. G. R. Williams spoke on the composition of the various calculi of the gall-bladder, kidney and urinary bladder. Dr. G. W. Hunt spoke of the very rapid development in size of urinary calculi and cited some cases he had seen. Dr. C. A. Handley had had a similar experience. Dr. McCord spoke of indigestion as the cause of calculi and predicted that the time would come when this would be proved to be the cause of all types of this ailment. Others called attention to infection as a cause of calculi.

The president, Dr. W. S. Jones, then made an address in which he urged physicians to develop to the utmost the fraternal principle. He also pictured very elaborately the benefits of the medical societies and the great value of well attended meetings. He also spoke of the greater interest which would be developed should the society meetings be held at different points throughout the county instead of always holding the sessions in one city. He then detailed his experiences with the dierotalin vaccines and reported several cases in which he had successfully employed them, and concluded by urging their trial in epilepsy, asthma and rheumatism.

The president appointed Drs. Hunt, H. C. Kerrick, Evinger, Williams and Baum as a committee to confer with the National Red Cross Society in regard to forming a branch of that society for Edgar county.

The members of the Society made a visit to the home of Dr. D. M. Camerer of Chrisman to congratulate him on having reached his eighty-ninth birthday. Dr. Camerer is thought to be the oldest living graduate of Rush Medical College and is enjoying a happy and vigorous old age, esteemed by all who know him. He is regarded as the medical nestor of the Edgar county physicians.

The following physicians were present: Jones, Baum, White, Harlan, McCord, Halloran, Hazen, Williams,

Layton, Buchanan, Chas. Kerrick, H. C. Kerrick, Shipman, Slaughter, Handley and Hunt.

The Society adjourned to meet in Brocton October 29 1913.

GEORGE H. HUNT, M.D., Secretary.

GALLATIN COUNTY

At the stated meeting of the Gallatin County Medical Society held in Shawneetown in May last, the following officers were elected for the ensuing year: President, Dr. J. W. Bowling, Shawneetown; vice-president, Dr. W. H. Gregory, Cave in Rock; secretary, Dr. A. B. Chapel, Shawneetown.

J. W. BOWLING, M.D., President.

KANE COUNTY AND AUX PLAINES BRANCH

The annual midsummer joint meeting of the Kane County Medical Society with the Aux Plaines Branch of the Chicago Medical Society was held August 7 at the Glen Oaks Country Club. Lunch was served at the club and the afternoon devoted to the scientific program as follows:

"Relation of the Eyes to Diseases of the Nose and Accessory Sinuses." Lawrence J. Hughes, Elgin. Discussion opened by Drs. Kettlestrings and Schneider.

"Open Treatment of Fractures." James H. Skiles, Oak Park.

"Arthritis." Gilbert L. Bailey, Oak Park.

"Some New Things in Surgery Observed at Johns Hopkins Hospital." D. D. Culver, Aurora.

WILLARD W. WICKSON, Secretary.

McHENRY COUNTY

The McHenry County Medical Society met in the city hall at Marengo, Aug. 9, 1913, at 5:30 p. m., with the president, Dr. H. D. Hull, in the chair and the following members present: Drs. Brown, Hebron; Peck, Maxon and Schmid, Harvard; Hull, Crystal Lake; Pillinger, Algonquin; Higgins, Huntley; Eshbaugh, Richardson and J. I. Wernham, Marengo; West, Seelye and Smith, Woodstock.

The application of Dr. George H. Pflueger of Crystal Lake having been reported on favorably by the board of censors, a vote was taken and Dr. Pflueger declared duly elected to membership.

Dr. O. L. Pelton of Elgin then read a very interesting paper on "A Few Surgical Diseases of the Pleura."

A motion was made and carried that the next, or annual meeting of the society, be held at Algonquin at the call of the president.

Adjournment was then taken to the supper table.

A. B. SMITH, M.D., Secretary.

MONTGOMERY COUNTY

Regular June Meeting

Our June meeting was one of the best of the year both in attendance and in excellence of the program. Dr. F. C. Blackwelder's paper on "The Salicylates" was a splendid effort and it brought out a generous discussion. The paper was complete, comprehensive and practical and we regret that we are unable to publish it in toto for the benefit of those who missed it.

The society decided to hold the picnic again this year and selected the date of the regular September

meeting as the time. Chautauqua Park was again chosen as the place. A committee consisting of Z. V. Kimball, L. S. Brown, M. W. Snell and H. F. Bennett was appointed by the president to make the necessary arrangements for the picnic.

Dr. H. C. Hopper of Nokomis, a graduate of Jefferson Medical College, was elected to membership.

Messrs. Frey and Bixler, of Hillsboro, were guests of the society and at the conclusion of the program both made short talks. They were loud in their praise of our organization and predicted splendid things for its future.

The program committee announced that the next meeting of the society would be held at Nokomis and that Dr. L. S. Brown would be the essayist and Dr. W. H. Mercer to lead the discussion.

The following were in attendance: Drs. Kelly, Lockhart, Burns, Hager, Snell, Blackwelder, F. C. Sihler, G. A. Sihler, Jr., Allen, L. G. Griswold, Whitten, Hodges, Hopper, Hubbard, Brown, Hermann, Moyer, Kimball, Clotfelter and H. F. Bennett.

Regular Meeting of July 29, 1913

The last meeting of the society was held in Nokomis on the above date, with Vice-President Whitten in the chair and the following present: E. A. Burwell, M. H. Irwin, H. C. Hopper, W. C. Hovey, W. A. Hodges, G. C. Bullington, C. H. Lockhart, W. I. Burns, R. N. Canaday, I. G. Hubbard, F. W. Barry, H. C. Turney, M. L. Moyer, L. S. Brown, Z. V. Kimball, E. H. Hermann, A. W. Lindberg and H. F. Bennett.

The committee on arrangements for the picnic reported progress and promise splendid entertainment for this occasion.

Dr. L. S. Brown read a paper on "Punctures" which was most instructive. A general discussion lasting more than an hour followed, Dr. Brown closing the discussion.

The Nokomis members entertained the society with an informal luncheon following the meeting.

PIKE COUNTY

The regular July meeting of the Pike County Medical Society was held Thursday, July 31, 1913, in Woodman's Hall at Griggsville. Members present were Drs. Shastid, Lacy, Harvey, Smith, Wells, Skinner, Peacock, Watson, Loveless and Duffield; visitors, Drs. E. J. Brown, Decatur; C. E. Black, Jacksonville, and J. W. Turner, Pleasant Hill. Dr. Turner requested a rehearing of his case which ended by his making a new and original application for membership to be acted on at the next regular meeting. After the usual business preliminaries, Dr. Everett J. Brown read a paper on "Chlorosis and Pernicious Anemia" which was thoroughly discussed. Dr. W. E. Shastid reported a case of anterior poliomyelitis in a girl, aged 15 years, which ran a rapid course of a few days to death. This was thoroughly discussed and brought out reports of several milder cases in younger children but no deaths. Dr. C. E. Black reported a case of extensive injury to the head which finally ended in a test of the employer's liability law, which he commented on extensively. General discussions on various topics followed. Drs. Brown and Black were tendered a vote of thanks for their assistance in the program.

H. T. DUFFIELD, M.D., Secretary.

RANDOLPH COUNTY

The Randolph County Medical Society met in regular quarterly session in Sparta at the Country Club, Thursday, July 24, 1913. The following members were present: Drs. H. L. Gault, J. W. Wier, Wm. R. MacKenzie, W. H. James, C. H. Anderson, Harley Yandall and L. J. Smith. Drs. E. W. Fiegenbaum, secretary of the Madison County Medical Society, Edwardsville, and W. U. Kennedy of St. Louis were present and had interesting papers. The program was excellent and an elaborate lunch was served by the ladies who were especially invited to this meeting. The next meeting will be held in Chester the second Tuesday in October.

LOUIS J. SMITH, Secretary.

VERMILION COUNTY

The annual picnic of the Vermilion County Medical Society was held in Barlow Park, Alvin, Ill., Aug. 8, 1913. Among the afterdinner speakers, Mrs. F. M. Mason of Rossville deserves special mention. Her response to the toast "The Doctor's Wife" follows:

"Mr. Toastmaster, Members of the Vermilion County Medical Society, Ladies and Gentlemen:—I desire to congratulate the committee on the arrangement whereby for the first time in its history this society has found it possible to enjoy to-day's outing with a splendid picnic dinner and delightful social intercourse in this beautiful park. Especially have we been pleased to listen to the responses to the various toasts and the felicitous manner in which each subject was presented, and I suggest that this day be made the inaugural of a custom to be perpetuated through this generation at least.

Permit me also to express the honor that I feel has been conferred on me in being requested to respond to a toast and particularly that of 'The Doctor's Wife.' The blood of the medical profession for five generations courses through my veins. In my girlhood I used to feel that when the choice of a life partner presented itself to me, I would certainly refrain from choosing an M.D., but how little we know of the fortitude necessary to meet the almost irresistible influence of heredity, for I find myself not only the daughter of a doctor through long descent, the sister of a lamented physician and surgeon, but the wife and probable mother of a doctor.

"When the announcement of my subject reached me, somehow or other the wife of the present day seemed to pass from me, and I saw the doctor's wife of pioneer days, whose duties were more strenuous, whose cares less unrelieved, and whose efforts were more unappreciated. I seem to behold, even as St. John on the Isle of Patmos, a vast multitude, whom no man could number, of all nations and kindreds and peoples and tongues, who stood before the throne clothed in white robes and palms in their hands; and I beheld those who had come up out of great tribulation, and I said surely these are the doctor's wives, surely these are the faithful consorts of the pioneer, who braving the discomforts of primitive civilization, accompanied the doctor in his efforts to aid humanity, to relieve distress, to comfort the afflicted and to make of himself a veritable martyr to inherited principles of right. Undaunted she took up the burdens willingly assumed, unflinchingly she endured the chafing load, and resignedly she accepted the fate which awaited her future life. Ready to minister to all, her hand

was outstretched in mercy, her ear was ever open to every call of distress.

"Meager as were the financial remunerations of those days, she often found herself wondering how to maintain the home and rear the family on the small pittance available at that time. Yet bravely she endured all as one who sees not the present, her bosom the haven of her husband's faith, the comfort of her children's ills, the refuge of her neighbor's woes. She kept inviolate the secrets of each and saw only the promise of her high calling in the infinite and beautiful reward awaiting her. She was indeed a part of every case whose intricacies baffled the skill of the doctor, or whose recovery gladdened his heart. She was in every sense a helpmeet even as she was divinely intended to be. Many were the medicinal compounds prepared by her hands, many the surgical appliances attended by her, and many were the critical moments in the history of the case the patient hovering between life and death, when she stood bravely by the side of the doctor and cheered by her presence or consoled by her advice.

"A noble woman, the pioneer doctor's wife: unexcelled in integrity, unsurpassed in nobility. Her price was above rubies. The heart of her husband did safely trust in her, and she did him good and not evil all the days of his life. Fain would I weave for her a crown of immortal fame, and tenderly placing it on her brow, with a heart full of a sense of personal indebtedness make a loving and revered obeisance to her memory. To what extent her example is followed to-day remains a question for future solution. Innate modesty and propriety forbids a personal reply. However distance, you know, reveals much that cannot be seen at close range, and possibly the future will make clear the noble qualities of heart, head and mind which make up an ideal doctor's wife.

"The tide of progress, the school of men's thought, and the achievement of scientific research have done much to lessen the responsibilities and to lighten the duties of doctors' wives: while the 'New Woman' idea and the many promising possibilities which hover on the ever broadening horizon of equality for the sexes, make pause and wonder as to what extent, to what degree, she may participate in these movements. It appears to me that in no place is a woman more eminently in her God given sphere than in the home. Here she exercises her own peculiar privileges and rights, here she molds and fashions the lives entrusted to her care, here her influence makes her impressions that shall last until the ethereal blue of the great eternity beyond dawns on us.

"And now you will pardon the digression, as in conclusion I cannot refrain from commenting on the professed tolerance of conservative thought, which fosters a growing indifference to the attempts made by the isms, quackeries, and hoodoos of the charlatan to lower the standard of the medical profession. I would exhort all to vigilance that the honors and dignity attained and upheld by some of the grandest men this age or any other age has ever produced, men who considered emoluments and honors as naught compared to the lasting good bestowed on future generations by their wonderful achievements in medicine and surgery, be not lowered by the excrescences that attempt to fasten themselves on the medical profession. Let us be true to the teachings of these noble men who have made the whole human race debtors to

their excellent greatness forever. Peace to their ashes. They have left us a priceless legacy.

"And now I propose a toast to 'The Doctor's Wife.' Long may she live to enjoy the happy fruition of a well ordered life. Long may her memory be cherished. And further to the doctors, I propose the future maintenance of the high degree of medical and surgical excellence attained by the profession in Vermilion county. I thank you."

News Notes

—One thousand new members will place the Illinois State Medical Society at the head of all the states.

—Mellin's Food is said to have been awarded the Gold Medal at the International Medical Congress in London.

—Tear out the application blank—advertising page—and secure a new member for the next meeting of your society. There's a reason—on reverse page.

—An analytical laboratory for the coroner's office has been opened in the County Building and work has been commenced by the coroner's chemist, Dr. William D. McNally.

—Maimonides Hospital, 1519 South California Avenue, opened its free dispensary to the public, July 28. It is said to be the only orthodox Jewish institution of its kind in the West.

—Bids for eight cottages for the tuberculosis department of Oak Forest Infirmary were received by the Cook County Board of Commissioners August 4. The bids varied from \$112,800 to \$142,984.

—At the July meeting of the Edgar County Medical Society new members representing Paris, Kansas and Scotland were elected. Is this an international society masquerading under the modest name of Edgar County?

—The first jury of women ever impanelled in Cook County passed on insane cases at the Detention Hospital Court, August 7. Dr. Clara P. Seippel, assistant city physician, was foreman of the jury and Dr. Anna Dwyer a member.

—Cass County Association for the Prevention of Tuberculosis was organized at Virginia, July 30, with Drs. Albert R. Lyles, Virginia; John G. Franken, Chandlerville; Jos. M. Swope, Arenzville, and Jas. A. Glenn, Ashland, vice-presidents.

—At a meeting of the board of trustees of the Watseka Hospital, July 30, A. F. Goodyear was elected president of the board and a committee was appointed to investigate building plans and have the construction of the hospital carried on as rapidly as possible.

—At a recent meeting of the Douglas County Medical Society a movement was started to build a county hospital. The plan is to solicit subscriptions to the amount of about \$25,000 among the residents of the county, and with this amount to establish a hospital at Tuscola.

—We are in receipt of a booklet on "Biologic Products and How to Use Them," issued by the Abbott Alkaloidal Company and offered free to any of our readers on application to the company direct. This little booklet contains in compact form much valuable information on the preparation and use of these products.

—A massmeeting was held at the Kishwaukee Country Club under the auspices of the De Kalb County Medical Association to inaugurate measures for the establishment of a county sanatorium for tuberculosis. Dr. W. A. Evans, Chicago, delivered the address and steps were taken for the organization of a society to take the matter in charge.

—Plans have been executed and contracts are being awarded for a new contagious hospital to be built in Evanston by James A. Patten. Mr. Patten offered to build such a hospital if \$100,000 should be subscribed by citizens of the town as an endowment fund. The building is to be four stories in height, the upper stories being devoted to hospital wards.

—Mrs. John B. Murphy, treasurer of the Free Bed Fund of the Chicago Hospital Aid Association, in her report of the subscriptions and contributions made in May last, for the benefit of the hospital fund, states that \$25,000 was collected, that nearly \$9,000 is being held at the State Bank of Chicago for a contagious disease hospital and research fund when the institution will be established; \$8,833.33 has been received for the Chicago Baptist Hospital and a similar amount has been expended for the sick poor in various hospitals, and that a balance of \$7,558.59 is still in the hands of the association awaiting distribution.

—Eugenics and race suicide seem to be getting into politics in Germany. According to current dispatches, a Dr. Moses defends the "birth strike," claiming that it would be the quickest, most effectual and most certain way of raising the status of the working classes. He told of attending working mothers who had fifteen to eighteen children, while families of ten or twelve children were numerous. He said that, leaving out of consideration the physical ruin of mothers, no workingman could even half way rear, feed and educate such a number of children under present conditions.

—*The Journal A. M. A.* for August 23 contains the annual report on "Medical Education in the United States" with the customary encyclopedic data on medical colleges. Whatever the partisans of various schools may think of the facts as therein set forth, the thoroughness of this presentation has never been approached by any other investigating bodies of which there has been a surfeit the past few years. If anyone feels chagrined at the record of his alma mater, let him not be downcast. His school may join the ranks of those that have seen the handwriting on the wall and given up the unequal struggle or joined with others to form a strong institution.

—The Clinton County Medical Society issued the first number of *The Messenger* last month containing the names of the members and new officers, announcement of the program of the meeting of August 12, some personals and news items and the following "Things that Concern All": (1) What have you done and what are you doing for the society? (2) There is much work to be done, will you help? (3) We should have every eligible physician in the county enrolled as a member. (4) We should do something to benefit each and every member. (5) What do you think of the changed appearance of the ILLINOIS MEDICAL JOURNAL? Out with it. Don't be embarrassed. The *Messenger* is a live one and will no doubt add greatly to the interest of the members and increase the attendance at the quarterly meetings. There is a field for many more publications by the county societies.

Personals

Dr. and Mrs. David Monash, Chicago, have returned from abroad.

Dr. George Thomas Palmer, superintendent of health of Springfield, has resigned.

Dr. Anna Dwyer, Chicago, has been appointed a member of the State Charities Commission.

Dr. A. T. Davis, St. Charles, was operated on for appendicitis in St. Joseph's Hospital, Elgin, July 24.

Dr. T. H. Culhane, Rockford, has been appointed a member of the State Civil Service Commission.

Dr. E. P. Murdoek, Chicago, recently fractured his leg in the fall of an aeroplane near Spokane, Wash.

Dr. Thomas H. Leonard, Lincoln, has been appointed superintendent of the Lincoln State School and Colony.

Dr. John J. Grant, after three years in hospital work in New York, has returned to Freeport and will locate there.

Dr. J. E. Inskeep, Mount Carmel, announces that he intends to retire from active practice to establish business in the West.

Dr. F. M. Mason and family, Rossville, report a pleasant auto trip of 2,300 miles to Niagara Falls and return without accident.

Dr. Patrick M. Kelly, Litchfield, has been appointed superintendent of the Kankakee State Hospital, vice Dr. Sidney D. Wilgus, resigned.

Dr. Stewart C. Thompson, Byron, was painfully injured in a collision between his automobile and a St. Paul freight train, July 23, in Byron.

Dr. Ralph Kleckner, Mattoon, has returned from a year of study in Vienna and will locate in Springfield, Ohio, confining his practice to surgery.

Dr. W. L. Athon, formerly superintendent of the Anna State Hospital, will devote his entire time to the Marshall City Bank, of which he is president.

Dr. H. G. Hardt resigned as superintendent of the Lincoln State School and Colony, to take effect August 10, 1913. Dr. Hardt will locate in Chicago.

Dr. Peter C. Clemenson, Chicago, has been appointed a member of the Board of Education and Dr. Frank J. Pokorney a member of the Library Board.

As the August JOURNAL was in press, news was received of the death, July 20, at his home in Oconee, of Dr. James Linn, whose great age was commented on in THE JOURNAL.

Dr. E. E. Church, formerly of La Fayette, Ill., spent a year in Oklahoma to regain his health and has purchased the home and practice of Dr. R. L. Buffum of Toulon, who is going to California.

Dr. John F. Taylor, Buda, who suffered from sunstroke while driving his automobile near Buda, lost control of his car which was wrecked, and in the wreck Dr. Taylor sustained serious injuries.

Dr. A. M. Harvey, Chairman of the Public Policy Committee of the Illinois State Medical Society, formerly of 33 S. Ashland Boulevard, Chicago, has removed his residence to 345 N. Spring Avenue, La Grange.

Dr. George G. Davis, instructor in surgery at Rush Medical College, has obtained leave of absence for one year and sailed for Manila, August 12, where he will serve as associate professor of surgery in the University of the Philippines.

Dr. F. A. Leusman, whose death is noted in this issue of *THE JOURNAL*, requested us to announce the severance of his connection with the Chicago Hospital College of Medicine, the request coming too late for insertion in the August *JOURNAL*. Requiescat in pace.

Dr. John E. Allaben, Rockford; Dr. and Mrs. R. H. Good, River Forest; Dr. J. F. Percy, Galesburg; Dr. Geo. M. Kreider, Springfield; Dr. Carroll B. Welton and family, Peoria; Dr. and Mrs. Chas. J. Swan, Evanston, and Dr. J. A. Pratt, Aurora, have sailed for Europe.

Dr. Maximilian Herzog has been appointed dean of Bennett Medical College and head of the department of pathology, bacteriology and hygiene; Dr. Charles H. Miller has been made head of the department of therapeutics and Dr. Ulysses J. Grim, professor of otology and laryngology.

Dr. and Mrs. Herman L. Kretschmer, Dr. and Mrs. Joseph Krost, Dr. and Mrs. Cassius C. Rogers, Dr. and Mrs. Frank C. Todd, and Drs. Robert Sonnensehein, Julius B. Beck, John J. Killeen, Oliver S. Ormsby, William Allen Pusey and Anthony Krygowski, all of Chicago, have sailed for Europe.

Dr. Frank P. Norbury, alienist, Board of Administration of Illinois, has resigned; effective October 1, 1913. Dr. Norbury will enter on consulting practice at Springfield. Dr. Norbury entered public service as assistant physician to the Jacksonville State Hospital, 1888-1893; then followed private institution work for sixteen years. Governor Deneen appointed him superintendent of the State Hospital at Kankakee and later alienist member of the Board of Administration.

Eminent labor in any field of human endeavor ultimately finds its reward. The appointment of our President, Dr. P. M. Kelly, as the executive head of the State Hospital for the Insane at Kankakee is a recognition of that merit. He has been faithfully devoted to the highest ideals of his profession for more than twenty years. While his departure into another field causes the deepest regret to a legion of friends and admirers, they all rejoice in the honor conferred on him. Our society has sustained a decided loss in the change that takes Dr. Kelly from Montgomery County. He has always been an ardent supporter of medical organization and the growth of our society has been due greatly to his enthusiasm and wise counsel. In medical circles he is universally held in the highest esteem. His ability, sincerity and integrity are irreproachable. If intelligent and honest hard work count

for anything, his administration will be most successful. The Montgomery County Medical Society joins in the multitude of congratulations and best wishes.—*From the Bulletin of the Montgomery County Medical Society.*

Public Health

—The British Medical Association is said to have seriously discussed the advisability of organizing a labor union to escape the liability of having its funds attached for libel. Labor unions' funds are thus exempt, but the *British Medical Journal* was mulcted for calling a practitioner a quack. The association was also defeated in its fight against the provisions of the new pauperizing insurance laws. Those members who favored the "union" idea argued that it would help the association in such public contests.

—On examining the August announcement of the Fourth International Congress on School Hygiene giving the second tentative schedule of papers, one is surprised at the very small representation of the medical profession of Illinois. Only two physicians from the state, Drs. Frank Allport and Josephine E. Young, Chicago, have papers on this program, while the educational forces of the state have six and the nurses one representative. It is also noteworthy that none of the middle western states has a representative on the international committee.

—Many communities are afflicted with medical fakers because no one takes the initiative in suppressing frauds of this character. Members of the medical profession are sometimes loath to do so because of the belief that the public will misconstrue their motives. In most instances the civil authorities have been indifferent. And so these frauds flourish.

San Antonio, possibly because of its reputation as a health resort, has been a fertile field for medical frauds of all sorts, but through the action of the Bexar County Medical Society has been almost completely rid of such people. Texas has a medical practice law which differs little from the practice laws of many other states, but under the vigorous action of the legislative committee of the county society headed by Dr. Charles D. Dixon, chairman, assisted by their attorney, Mr. J. I. Kercheville, regularly employed by the committee, practically all of these people have been driven out of the community. Only three firms of advertising specialists remain, and against the men composing these firms charges have been filed for the revocation of their licenses.

The action of the legislative committee of the Bexar County Medical Society who are ridding the community of these frauds shows what can be done in practically every state, under present medical practice laws, if the matter is taken up in a vigorous manner. Physicians of the state of Texas are interested in the work of the Bexar County Medical Society, and similar action will doubtless be taken in other communities. When rightly understood, similar action by the medical societies in every state will be approved by the people.—*From Jour. A. M. A.*

—Oscar Sprohl, because of the great success he attained, has had many imitators. One of these, also styling himself the Great Keene, a few weeks ago was working the good towns of Illinois. I was his assistant. This fellow's name is C. Mason Johnson Hugoros, but he also is known as J. R. Silver. We'll call him Silver.

He carries an electric battery around the country, hires a suite of rooms in a hotel, and advertises he will cure any ailment or make no charge. This battery is placed in a closet, a wire run under the carpet to his desk, and he makes the connection by means of placing his foot on a small plug.

When a sucker comes in Silver finds out what his trouble is. He then holds out his hands and says: "Now, place your hands on mine and I will show you that I am a magnetic man." Hidden in the closet, I get my signal. I turn the battery on just a little and give the goop a slight shock.

Silver makes a specialty of curing rheumatism. Electricity is one of the greatest known remedies for temporary relief from that ailment. Silver rubs the sucker thoroughly with the palm of his hand.

One day I had been drinking pretty heavily, and while I was sequestered in the closet awaiting the arrival of a live one I fell asleep. While I was in dreamland a sucker came in. Silver, giving me the signal, said: "I am a magnetic man." He repeated it several times louder and louder. I awoke with a start, and, in my hurry to answer the signal, turned the battery on to its highest voltage. Silver let out a howl that would wake the dead. The sucker went downstairs and reported the fake to the hotel manager. He came upstairs and discovered the battery. Silver kicked me in the eye while I sat in the closet. We made our getaway. The authorities, according to late reports, still are searching for Silver.—*From Thos. J. Minnock, Confessions of a Reformed Gaffer, Chicago Tribune.*

—Dr. W. A. Evans, health commissioner for the Chicago Tribune, in his "How to Keep Well" article, August 19, indulges in some reflections on baby welfare work with regrets that Chicago

and other cities were wont to work out their own methods in such work instead of adopting out of hand the improved methods of the more experienced, as for instance, the New York health department, which employed a staff of physicians in 1876 to care for sick babies in July and August. As commissioner of health for Chicago, Dr. Evans was the first to secure funds to employ the school physicians during the summer of 1908 in infant welfare work, but the inference that such work had never previously been done in Chicago is incorrect.

In 1899 the city had the free services of seventy-five volunteer physicians who called on the mothers in the poorer parts of the city instructing them in the care of the babies. As their unsolicited visits were sometimes viewed with suspicion, the corps were instructed to introduce themselves by inquiring about the removal of garbage which gave them a sympathetic hearing when they approached the question of infant feeding and care.

July 29, 1899, Dr. A. R. Reynolds, then commissioner, said: "It is discreditable to the city and unjust to the medical profession which already gives so freely of its time and talents to charitable work, that physicians should be asked to do without compensation what it is the city's duty to do in the interest of the public health; and I shall renew my request next year for a midsummer corps of properly paid medical inspectors, such as New York and other cities have long had."

Even earlier, in June, 1895, Dr. F. W. Reilly, assistant commissioner of health, wrote a pamphlet or folder on "Hot-Weather Care of Infants and Young Children" that was printed in six languages and remained the standard in the Chicago Department of Health till 1911. It passed through fifteen large editions and was translated into three additional languages. It has been the basis of numerous similar circulars in the United States and abroad.

The following figures speak eloquently for the faithful efforts of the volunteer or very small paid corps of physicians employed previous to 1908, though the paid staff in 1911 and 1912 again lowered the higher death-rate that prevailed in 1907-10.

DEATHS UNDER 1 YEAR OF AGE

	Per cent. of total deaths at all ages	Per 1,000 population all ages
1902.....	19.44	2.86
1903.....	18.39	2.87
1904.....	19.10	2.64
1905-6 (average)....	21.24	3.03
1907-10 (average)....	21.15	3.16
1911.....	19.31	2.81
1912.....	19.73	2.92

Dr. Whalen asked for 100 medical school inspectors in 1906, but was unable to secure an appropriation for them until February, 1907, when an epidemic of scarlet fever aroused the council to provide a corps of 200, which was reduced to 100 after the epidemic subsided, and this has been the average number employed since that time. No consideration of infant welfare work would be adequate without mentioning the excellent services of the Visiting Nurse Association and the corps of health department nurses. The visiting nurses began the instruction of mothers in 1891-2. The first baby tent in Chicago was established in 1905 at the Northwestern University Settlement. This year thirteen tents are in use. In 1908 forty health department nurses were detailed to welfare work under the Visiting Nurse Association. The past summer the health department has employed 75 nurses.

Marriages

JOSEPH LOUIS BAER, M.D., to Miss Gretchen W. Shattuck, both of Chicago, July 28.

EDWARD FRANK GOLLOBITH, M.D., to Miss Ida Eadle, both of Hanover, Ill., June 26.

EDWARD S. LOGÉ, M.D., to Miss Anna Soukup, both of Milwaukee, at Chicago, July 12.

JOHN ABRAHAM PRATT, M.D., to Mrs. Harriet M. Bigler, both of Aurora, Ill., July 21.

ALVAH LEWIS SAWYER, M.D., Chicago, to Miss Marion L. Messer of Beloit, Wis., June 21.

BEVERIDGE HARSHAW MOORE, M.D., to Miss Amy Thayer Blodgett, both of Chicago, July 22.

WILLIAM HARRY CUNNINGHAM, M.D., to Miss Emma B. Eckholm, both of Rockford, Ill., July 22.

LYMAN GOULD, M.D., Chicago, to Miss Marion Cooper of Kendallville, Ind., at Albion, Ind., August 1.

DOUGLAS ARCHER LEHMAN, M.D., Harrisburg, Ill., to Miss Hazelle Lane of McLansboro, Ill., June 18.

REUEL JAMES TANQUARY, M.D., St. Louis, to Miss Eva W. Robertson of New York City, at Effingham, Ill., July 19.

WARREN GORDON MCPHERSON, M.D., Bement, Ill., to Mrs. Rothmeyer of Denison, Tex., at Gainesville, Tex., July 10.

Deaths

ZEPHRIM ROULEAU, M.D., Victoria College, Coburg, Ont., 1872; died at his home in Manteno, Ill., July 17, from angina pectoris, aged 66.

HIRAM C. FISHER, M.D., Medical College of Ohio, Cincinnati, 1868; of Metropolis, Ill.; died at the home of his son in Jonesboro, Ark., July 9, aged 75.

ALVA C. TRUITT, M.D., Kentucky School of Medicine, Louisville, 1882; of Sterling, Neb.; died at the home of his brother in Shelbyville, Ill., June 18, from locomotor ataxia, aged 55.

PHILLIP O. PORTER, M.D., Long Island College Hospital, Brooklyn, 1875; of Springport, Mich.; a member of the British Gynecological Society; died in Chicago, July 14, from heart disease, aged 61.

ROBERT HENRY BIGGER, M.D., University of Victoria College, Coburg, Ont., 1866; for twenty-seven years a practitioner of Indianapolis, and later of Carrollton and Mount Vernon, Ill.; died in Los Angeles, July 27.

ROSE WILLARD, M.D., Northwestern University Women's Medical School, Chicago, 1891; a member of the Illinois State Medical Society; assistant professor of gynecology in her alma mater; died at her home near Belmont, Downer's Grove, Ill., July 21, aged 46.

JAMES LINN, M.D., Cincinnati, 1840; who established the first drug stores in Hillsboro, Pana and Oconee, Ill.; a surgeon of volunteers during the Civil War; an active practitioner of medicine for near sixty years; died at his home near Oconee, July 20, aged 98.

HARLON JUSTIN MORRILL, M.D., College of Physicians and Surgeons, Chicago, 1902; of Chicago; was found dead in a rooming house in Cicero, August 4, aged 45. The coroner's jury returned a verdict of suicide from narcotic poison, while despondent on account of the death of his wife.

FREDERICK AUGUST LEUSMAN, M.D., College of Physicians and Surgeons, Chicago, 1889; a fellow of the American Medical Association and American Academy of Medicine; formerly instructor in genito-urinary diseases in his alma mater and professor of clinical and genito-urinary surgery in Jenner Medical College, Chicago; attending surgeon at the German-American Hospital; died in St. Joseph's Hospital, August 3, from heart disease, aged 60.

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Original Articles

ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY TUBERCULOSIS

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CHICAGO

1. *History.*—Compression of the lung with gas, as a means of treating the tuberculous lung, was first proposed by Carson, about one hundred years ago. Forlanini, Padua, however, in 1882, first applied the idea. Murphy, working independently, used nitrogen gas to collapse the lung in a number of cases of advanced tuberculosis in 1898, and reported on them to the American Medical Association at Denver in that year. Nevertheless, the treatment did not receive recognition until several years later, when it was taken up by L. Brauer, Spengler, Von Muralt and others. Since 1907, the Europeans have treated several hundreds of cases and have even formed the Pneumothorax Society. The knowledge and subsequent adoption of the treatment have spread generally through Europe. More recently, there have been a few papers on the subject before American societies.

2. *Definition.*—Artificial pneumothorax is produced by the admission of an innocuous gas into the pleural space; in consequence, the lung is either permitted to collapse or is actually compressed, depending on the method and apparatus used.

3. *Theory.*—The scientific foundation of artificial pneumothorax as a means of treatment depends on the fact that processes which reduce the space in the pleural cavity; for instance, pleural effusions, influence favorably, even severe tuberculosis of the lung. Spontaneous pneumothorax may have, temporarily, a good effect on the existing tuberculous condition. A recent case having extensive involvement of both lungs, suddenly developed a pneumothorax; high tempera-

ture became reduced, rapid pulse dropped and conditions looked up. Soon the respiration became rapid and short. One hundred and fifty c.c. of air were withdrawn and the patient was for the time relieved. After a period of ten days, the patient again became distressed and was relieved of 250 c.c. A pyopneumothorax then developed, but caused no urgent symptoms. The pressure in the pleural cavity was negative until the day before death, when it rose to 26 c.c. (water); 250 c.c. of air were again withdrawn, but the other lung was no longer competent and the end came.

4. *Apparatus.*—The collapse apparatus consists of a gas container provided with a scale in cubic centimeters, a manometer and needle, suitably connected by rubber tubing. The manometer is absolutely essential; without it the operation becomes difficult and dangerous.

The compression apparatus consists of a glass bottle containing gas, connected with another similar bottle, filled with water. The latter, emptying through tubes, into the former, displaces the gas which is thus forced into the pleural cavity under considerable pressure.

5. *Technic.*—Before a patient can be considered to be a fit subject for collapse, he should usually have been carefully studied for a more or less lengthy period. The procedure at the Chicago Fresh Air Hospital is to watch the patient for at least thirty days to determine whether any satisfactory progress is being made; to decide whether the operation is, after due consideration, justifiable.

Often a patient presents a bilateral condition, which, *per se*, excludes operation. Within thirty or forty days, one lung, perhaps, affected in lesser degree, clears up, thus creating a proper condition for the collapse of the cavernous lung. Again, such marked improvement in the local and general condition is observed after a period of rest that the operation becomes unnecessary, and therefore unjustifiable.

A Roentgen picture should be made of the

chest before the operation is proceeded with. While it is possible to determine conditions with a fair degree of accuracy without it, the use of the x-ray plate renders such great assistance that its use can be illy dispensed with. The great point is to determine a spot free from pleuritic adhesions; and this is not an easy thing. It is not safe to depend on a positive Litten, nor to regard the downward excursion of the lung as always indicating a free cavity. On the other hand, a free pleura has been found where these signs were absent. I have come to regard the clear and distinct transmission of râles to the stethoscope with suspicion, for my needle has failed, several times, under such circumstances, to find a free pleura.

When determining the site which offers most chance of success, it may be at the same time, marked and disinfected with tincture of iodine; assuming that proper cleansing of the skin has already been performed. A small incision, not more than 5 mm. long, is now made through the skin; then the needle, aspirating size, with blunt point, is connected with the rubber tubing which is attached by a "T" to the manometer and to the closed-off gas container. The needle is now carefully thrust through the muscularis and the parietal pleura. The operator's eyes should be directed toward the manometer after the introduction of the needle into the wound. Directly the parietal pleura is pierced, the manometer will indicate negative pressure by a sudden rise in the near column; *provided*, that there is no adhesion between the pleura at the point of puncture. Should the column of water slowly sink, indicating positive pressure, there is a possibility that a blood-vessel has been entered. Should gas be admitted now, air embolism would result and sudden death occur. The manometer must be the sole guide in this stage of the operation, and should be watched constantly. Should the pressure be negative, the stopcock on the gas container may be opened. With free pleurae, the gas will enter the cavity freely. Closing the cock, now, the column of water will be seen to rise and fall with inspiration and expiration. Should the contrary be the case, one must suspect puncture through the diaphragm into the abdomen.

Should the pleural cavity be small or limited by adhesions, the negative pressure soon becomes positive and the flow of gas ceases. It is well to check the flow every 100 c.c. to observe manometric action.

Operators differ as to the amount to be admin-

istered at the first operation. Forlanini¹ gives only 200 to 300 c.c.; Weiss, never over 1,000 c.c.; Brauer gives as much as 1,800 c.c., practically as much as the patient will take. My own practice is to give as much as the patient can take with comfort; usually from 800 to 1,000 c.c. The absorption of gas occurs with rapidity in the first instance; therefore it becomes necessary to reinsufflate at frequent intervals—e. g., three to five days. The intervals may then be lengthened to one week, ten days, two weeks, a month. Fever patients are said to absorb more rapidly than non-febrile. Further, it seems that cases presenting signs of pleurisy also absorb slowly. L. Brauer regards the puncture in the first instance as dangerous. He therefore makes an incision, 2.5 to 3 cm. long, through the skin and muscularis. The intercostal muscle is then carefully retracted and the parietal pleura comes into view. This is, if free, perforated with a blunt canula and the gas administered. (Sauerbruch, *Technic der Thorax Chirurgie*.)

If the pleura shows adhesions, the wound is sewed up and the operation repeated at another location. The objection to this method lies in the ease with which subcutaneous emphysema may occur, and in the fact that the time consumed precludes many attempts at one seance. Brauer uses the puncture in reinsufflations.

6. *Negative Pressure*.—This varies in different individuals and in the same individual, according to the distance from the hilus where it is lowest. The elastic mass of the lung is an important factor in the production of negative pressure. In reinsufflation where the nitrogen has been absorbed largely, it is often difficult to reestablish a condition of collapse. At first, the lung seems to be adherent to the chest wall; soon, however, if the operation succeeds, the gas flows more and more rapidly as the lung cleaves from the parietes and retraction takes place.

7. *Indications and Conditions for Operation*.—Practitioners of artificial pneumothorax are not entirely at one as to conditions and limitations of its application. L. Brauer states repeatedly: "Only such cases should be operated on as have failed of cure by hygienic and dietetic means;" cases, in fact, for which no hope exists, aside from lung collapse. The Brauer and Spengler series of 88 cases were almost all operated on with this condition in view, but the 23 deaths and 8 failures point the query, "Is it well to wait until the outlook is so desolate?" Is lung collapse such a desperate operation as to be used

1. Trans. Tub. Cong., Rome, 1912.

as a last resort? Certain other practitioners have recommended the operation *before* conditions become desperate, before the pleural cavity has become largely obliterated; even while the diseased lung still contains large healthy areas which will surely be sacrificed by the operation, but will equally certainly be destroyed by the advancing disease if time enough be allowed. A *sine qua non*, concerning which there is no dispute, is that the opposite lung must be healthy, or, if disease be present, it must be so quiescent that respiration can be carried on without embarrassment. For the successful production of a pneumothorax it is also necessary to have a free pleural space. It is evident that adhesions of the pleural layers make impossible any attempt to collapse the lung. It is permissible to operate on febrile cases. The success in these instances rests on the disappearance of cavities, the impeding of lymphatic and sanguineous circulations and the emptying of cavities and parenchyma of septic material. After such collapse it is common to observe sudden temperature rise with signs of infection similar to tuberculin reaction, followed by steady drop of temperature and pulse.

Hemorrhage is also regarded as an indication for collapse of the lung and has been practiced by Bochalli, Rothschild,² and others. It is vital to determine from which lung the blood comes, not always a simple matter, when both lungs are flooded with blood, and the bronchi are producing numerous rales. In one such case I was unable to determine, seeing the case once, which lung was the offending organ; and my tentative diagnosis was wrong. Four others were, however, successfully diagnosed and operated on with absolute cessation of bleeding. Two were operated on during hemorrhage, the others in the interim.

Persistent high temperature must be regarded as a positive indication for this operation. This, even, when the apparent area is slight and the amount of lung to be sacrificed is great. In support of this point, Renon points out the value of pneumothorax in galloping cases where arrest has occurred immediately the lung collapsed. Here a few weeks will terminate the case fatally; the loss by collapse of most of the lung must be considered slight in comparison.

Under *contra-indications* must be considered extensive pleuritic adhesions, miliary tuberculosis, disease of both lungs, empyema and disturbance of the circulation. Coexistent intestinal disease has been regarded as a contra-

indication, although amelioration, instead of exacerbation of this condition, has been noted. Laryngeal involvement is not a contra-indication to lung collapse; *au contraire*, the resulting diminution of cough and expectoration favorably affect the throat disease.

Dangers and Complications.—So many untoward happenings have been recorded that the production of pneumothorax cannot be regarded as an entirely harmless proceeding. The most alarming, probably of all accidents, is air embolus. This may occur through puncture of a vein, succeeded by the admission of gas, or from rupture of adhesions and consequent suction of air into a vein. Air embolus may cause a temporary unconsciousness, as in one of Brauer's cases, or may cause convulsions, followed by death. Brauer has reported four cases of air embolus; Weiss adds one more which occurred in the seventh insufflation. It was characterized by epilepsy of the Jacksonian type, mental dulness, cyanosis and weak pulse. Recovery after three hours. Lyonnet and Picry report a case of death at the third insufflation. The cause of death was held to lie between air embolus and pleural shock. This accident can hardly happen if the operator will constantly watch his manometer, not permitting gas to pass through his needle until the manometer clearly indicates the proper position. Hardly less terrifying is the occurrence of pleural shock, caused, in some cases, by the puncture of the pleura.

Weiss reports a case of pleural shock at the moment when the costal pleura was punctured. The patient became cyanotic, dyspneic and restless. After the symptoms subsided nitrogen was administered, when the symptoms recurred. There was no sign of shock at subsequent fillings. Brauer and Spengler report a case where death came directly the pleura was punctured. Restoratives, promptly applied, were of no avail.

Injury to Lung.—This is possible and constitutes the chief objection of the Brauer school to the puncture method. The damage to the lung, *per se*, is slight. Of more importance is the possible effusion which results; this may be so slight as to escape detection, or may be so large as to seriously increase the intrapleural pressure. Usually these exudates disappear spontaneously, but may be aspirated a few times in the way of treatment. More than one observer holds the high pressure method responsible for many effusions.

Adhesions are the great obstacle in the production of the pneumothorax. The flat, broad adhe-

² Jour. A. M. A., Oct. 28, 1912.

sions defy any effort to inject gas, especially when they are old. New or young adhesions give way, often, on repetition of the insufflation. Here the gas serves to keep the adhesion on a stretch, while each successive cough or respiration serves to still further attenuate it.

Sometimes the adhesions, instead of breaking, carry away a portion of the lung, as in Bochall's case, where a cavity was torn open. Hemorrhage occurred, and subsequently, infection of the "good lung." Keller reports a similar case. On the other hand, adhesions may prevent lung collapse, and, maintaining cavity conditions, further the occurrence of hemorrhage, which, as often happens in rigid-walled caverns, may prove fatal.

Excessive Pressure, or Overinsufflation.—With the Brauer method it is easy to overinsufflate the pleural cavity, so that pressure is brought to bear on the good side. This produces a bulging of the mediastinum, aberration of the esophagus and embarrassment of the organs of the sound side. This is manifested by dyspnea, cyanosis, pain, anxiety, and, in the case of the esophagus, difficulty in swallowing. There may be, as a result of this distention, rupture of the mediastinum at its weak spot, whereon the symptoms become urgent. Excessive bending of the body, straining and so forth, after insufflation, may bring about this rupture, which is not painful—rather is it characterized by a sense of giving way. The immediate remedy is to draw off so much gas as will permit the patient to breathe easily. The pneumothorax may be reestablished later. With the collapse method the dyspnea passes off after twenty-four to forty hours. Wellman reports a temporary paralysis of the vocal chords by pressure on the recurrent nerve.

Subcutaneous Emphysema.—This occurs as the result of escape of gas through the puncture canal, and may develop until it extends up the chest to the neck, down the arm and even down to the hip. It occurs in both methods of gas administration. Coughing, laughing and physical exercise will tend to produce this condition. A few days will suffice to absorb the gas.

Some patients complain of loss of appetite and digestive disturbance after an insufflation. The fact that ptosis of liver, stomach, etc., are produced may serve as an explanation.

After the operation there is usually an increased pulse rate, increased respiration and often a rise of temperature. The last is probably due to the lung compression which results in throwing into the circulation a large amount of toxin. This subsides soon; there usually occurs,

also, profuse expectoration following the primary insufflation. Forlanini fears inspiration into the other lung of this profuse sputum output, but his anxiety is not generally shared.

In the event that influenza or bronchitis occur in the sound lung, there is danger that old foci may flare up and render the patient's condition more dangerous than before. It becomes necessary here, also, to deflate the diseased side. This procedure has not been of benefit, however, in pneumonia of the sound lung. In passing, it may be said that foci in the good lung are favorably influenced by the pneumothorax of the bad side.

Effects.—In hemorrhage, the immediate effect is to stop further bleeding. The effects in cases operated on for tuberculosis, i. e., cavities, fever, cough, etc., are more or less prompt.

The cavities collapse directly; by reason of the collapse and resulting compression, large quantities of sputum are expelled within forty-eight hours. Then comes the reduction of expectoration, sharp or gradual drop in temperature, lessened cough and distinct improvement, subjectively as well as objectively considered. Toxin absorption is much reduced, which usually soon influences the appetite favorably. Weight usually remains the same. Ultimately the cavities are obliterated by connective tissue and foci are walled off by the same means. Put briefly by Balvay and Arcelin,³ the effects are stated thus: (a) emptying of cavities filled with pus; (b) diminution of pulmonary circulation; (c) retardation of the lymphatic flow and absorption; (d) placing at rest of the diseased organ. The psychic effect is powerful. Provided that the first operation has been successful, patients will ask for a repetition from time to time. They often state that they do not feel so well when the "tank" is going down.

Anatomically, the effects are interesting. Kistler⁴ reported a case treated nine months, which came to autopsy. He noted great hyperplasia of connective tissue, which became destructive through cutting off alveolar epithelium; also, that the lymph spaces were greatly dilated. Further, Kistler states that the compressed lung is protected against new infection, thus confirming Forlanini's contention. He also found collapse of cavities and encapsulation of foci.

Kauffman⁵ prolonged a pneumothorax on healthy dogs with the result that fibrous bands

3. Lyon Medical, 1912 No. 3.

4. Beitrag z. path. Anat. d. Pn. Th., Kl. d. Tub. Bd. xix.

5. Ueber d. Veränderungen d. Lungen. Pleura, u.s.w., Beitr. d. Kl. d. Tub. Bd. xviii.

were formed, which bound down the lung so that expansion was impossible when the pneumothorax was allowed to go down. Other observers, as Bruns and Saugmann, confirm these findings and call attention to the thickening of the visceral pleura occurring after prolonged pneumothorax. Often the pneumothorax becomes steadily smaller through the growth of adhesions which progressively bind the lung and thorax wall together. One of my own cases illustrated this, where it was possible to insufflate 300 c.c. of nitrogen at first, the cavity has become so small that less than 100 c.c. can now be introduced, even under pressure. There has been, however, a satisfactory improvement along all other lines. Weiss⁶ reported an autopsy eighteen months after first insufflation was made. There were no new tuberculous lesions discovered.

CASES

Murphy⁷ reported seven cases in 1898. The report shows that the cases had not been under observation long enough to draw conclusions, but yet sufficiently long to demonstrate the great value of the operation. Murphy mentioned dangers, viz., gas embolism, infection with impure gas, lung puncture, rupture of infected foci and overdistention with gas. He recommended reinsufflation in six to ten weeks. At the time he had reinjected but one case. No fatalities were recorded.

Baer u. Kraus⁸ have reported 14 cases, 10 have survived six months to three and one-half years. Three patients died after a long period of improvement from involvement of the other side; one from intestinal complication.

Murard⁹ reports one case which, while the pneumothorax was continued, improved and, during three years, had good working capacity. With absorption of the gas, patient became worse; bacilli were still present at end of three years.

Piery¹⁰ reports 10 cases. Three lived, the balance died of hemorrhages, or of involvement of the other side; 6 cases showed temporary improvement. This citation indicates the necessity for careful selection of cases.

Boehali¹¹ reports 6 cases, which, being far advanced, gave slight chance of success; yet, only two are classed as failures. Brauer and Spengler¹² report 88 cases, mostly their own, together with reported cases of v. Mural, Philippi

and others. There were classed as failures, 8; cures, 28; deaths, 23; fair results, 13; slight improvement, 1; still under treatment, 15. There were living, four to five years after treatment, 1; three to four years after treatment, 8; two to three years after treatment, 16; one to two years after treatment, 23; over six months after treatment, 11; under six months after treatment, 11.

Brauer returned 27 patients to work; these had been under treatment one and one-half years or more; all cases were moderately severe.

Saugmann¹³ reports a series of cases: (a) 11 were operated on as a last resort; of these, 10 died, 1 doing well; (b) 11 cases complicated with tuberculosis of larynx or intestines; of these, 8 died, 3 showed improvement; (c) 35 cases without severe complications; 12 were well after terms ranging from one year and six months to three and one-half years; 5 were apparently well after terms of ten to fifteen months; 10 were still under treatment after seven months to two years and nine months; 8 died after terms of three and one-half months to two and one-half years.

A final report of Saugmann covering 32 cases gives: 5 cases well, 13 no symptoms, 10 improved, 4 dead.

The experience of Koch, Sterling and Pearson¹⁴ might be adduced, but the experiences are similar to those already reported.

AUTHOR'S CASES

Operated on because of persistent high temperature, two.

CASE I. Woman, aged 35 years, married.

Admitted to Fresh Air Hospital Nov. 2, 1912. Examination showed her to be a moderately advanced case, second extent. Mucous râles down to second space, right; behind, râles were found down to the third vertebra; pectoriloquy over the right apical space.

The chief and interesting feature of the case was the persistently high temperature. Her history showed that, in the hospital which had cared for her before she came to "Fresh Air," her temperature had never been less than 102.5 for two months previously. For the first month at "Fresh Air" her temperature ranged from 101 to 102.5 daily. The sputum contained numerous tubercle bacilli and other organisms. During the second month the fever remained around 102; average respiration, 20; pulse, 88 to 110. Weight on admittance, 96.5 pounds; six weeks later it had risen to 101. Because of the high fever it was decided to collapse the right lung.

Therefore, December 26, 850 c.c. N were given in the eighth intercostal space, midaxillary line, right side.

December 27, temperature normal all day. Sputum for twenty-four hours, 135 c.c.

Jan. 1, 1913, 800 c.c. N; sputum, 160 c.c.; temperature, 100; pulse, 84.

13. Med. Kl., 1911, Heft 4.

14. The Choice of the Patient for Art. Pn-Th. Treatment. Practitioner, 1911, p. 382.

6. Ueber Komplikationen bei d. Bhdg. Kuenst. Ph.-Th. Beitrge z. Kl. d. Tub., Bd. xxiv, Heft 3.

7. Oration in Surg. Denver Meetg., A. M. A.

8. Allg. Wiener med. Ztg., 1912, Nos. 12 and 14.

9. Lyon Med., 1911, No. 49, p. 1-203.

10. Lyon Med., 1912, Nos. 9 and 10.

11. Beitr. z. Kl. d. Tub. Bd. xxiv, Heft 1.

12. Beitr. z. Kl. d. Tub., Bd. xix, Heft 1.

January 9, 1,300 c.c. N; sputum for twenty-four hours, 45 c.c.; highest temperature since January 1, 100.4.

January 16, 850 c.c. N; sputum, 35 c.c. No chills since establishment of the pneumo-thorax.

January 30, 300 c.c. N; sputum, 25 c.c.; temperature, 99.2. Comes to all meals.

February 6, 1,000 c.c. N; sputum, 5 c.c.; temperature, 98.6.

February 13, 550 c.c. N; sputum, 4 c.c.; temperature, 97.8.

March 13, 900 c.c. N; sputum, 5 c.c.; temperature, 99.

April 3, 500 c.c. N; first puncture in the sixth space failed; second attempt, seventh space, successful; sputum, 1 c.c.; temperature, 99.2.

April 25, 700 c.c. N; sputum, 1 c.c. daily; temperature, 98.8-99. Returned home. Treatment to be continued.

CASE 361. Woman, aged 18 years.

Admitted to "Fresh Air" Hospital Nov. 24, 1912. She had been treated in another hospital for several weeks without bringing down a persistently high temperature. Pulse on admission was 110; respiration, 20; temperature, 100.4. During the next thirty days the temperature ran to 102-103 daily.

Physical signs: Marked scoliosis; both scapulae slow in motion; emaciation of both suprascapular spaces; râles were audible over the seventh cervical, first and second dorsal vertebrae; also mucous râles in the right interscapular space.

The pulse range during the first six or seven weeks was never below 120 and would rise, at times, to 130. On account of the high temperature it was decided to collapse the right lung. So, January 8, 1,000 c.c. N were insufflated into the right pleural cavity, without difficulty. Patient complained bitterly of pain and dyspnea, both during and after the operation. Within two days the evening temperature had fallen to 97.4 and remained there for forty-eight hours. It then rose again to its old height. The sputum, after the insufflation, amounted to 45 c.c. daily, dropping to 20 c.c. in one week. After the second injection of 700 c.c. the sputum output rose to 95 c.c. January 23 a third injection of 575 c.c. was made. Two days thereafter the sputum had nearly disappeared. Up to this latter date tubercle bacilli had not been demonstrable, nor, in fact, at any time during the course of treatment. However, the granules of Much were discovered in the sputum. February 16, 550 c.c. N were given and March 6 a final injection of 525 c.c. The net result of treatment was that the general temperature average was lower, but the pulse still touched 130 daily, even going to 140. Respiration ranged from 24 to 32. The sputum diminished from 10 c.c. down to nothing.

Minute doses of tuberculin were tried for a time, with a view to the reduction of fever, but without avail. Having failed in its purpose, the pneumothorax was now allowed to absorb. The fever remained high until April 20, when a tuberculous meningitis supervened. Exitus ten days later.

For hemorrhage, four cases.

CASE II. Male, aged 43 years. Had been sick one year. Lesions confined to left upper lobe. From June, 1912, when first admitted, to December 5, patient suffered from frequent hemorrhages. In November the

bleeding became alarming and a pneumothorax was attempted. Two attempts to find the pleural space through the seventh and eighth spaces behind failed. The patient fainted and the operation was abandoned. During December, 1912, further bleeding occurred and a second attempt to produce a pneumothorax was made. This was made through the fourth space left anteriorly and was successful. The next day patient spat 230 c.c. sputum. Five further injections were made and patient returned to his home March 31, spitting 30 c.c. daily. No further hemorrhages.

CASE III. Male, referred to Fresh Air Hospital in an almost exsanguinated condition. He received, at once, 1,200 c.c. N in the right chest, which alone showed signs of blood. Pulse, 140. Patient unable to move without fainting. The history revealed that the patient had bled daily for almost one month. Two further injections of N were made, after which the pulse was observed to range from 90 to 100. Temperature, 98-99. No hemorrhage after the first filling. Patient is now doing well and has gained in every way.

CASE IV. Woman aged 47 years. Had been bleeding three weeks. Owing to recent hemorrhages, no accurate examination of the chest was made. On admission pulse was 140, respiration 38 and temperature 103. Two days later, after improvement, patient lost 400 c.c. blood; 900 c.c. N were at once injected into the left chest, and after a second small hemorrhage two days later 300 c.c. N more given; then hemorrhage ceased. Temperature dropped to 100.4. Pulse remained around 140. A bronchopneumonia supervened and the patient died ten days after the first administration of gas.

CASE V. Male, aged 22 years. An arrested case discharged from Fresh Air Hospital, March, 1911. Returned with a history of having had repeated large hemorrhages, 300 to 500 c.c. in amount. He has now received five injections and has not bled since. General condition excellent. No cough. No expectoration.

For failure to progress, three cases.

CASE VI. Male student, aged 18 years. Entered "Fresh Air" Oct. 28, 1912, presenting signs of an early tuberculosis, and stated that he had no symptoms of the disease previous to one month before. He had slight cough with expectoration; appetite good, ability to exercise good; weight, 107 pounds. Cervical glands enlarged; mucous râles in third and fourth spaces left, and in the left interscapular space. Pulse, 80 to 100; temperature, 98 to 99.6. By November 28 a slight but definite pectoriloquy was demonstrable at the fourth space; sputum increased. Numerous tubercle bacilli.

December 5, 500 c.c. N were given. At the first puncture the needle found a much thickened pleura, but no free space. The seventh space in the post-axillary line was next punctured and the sinus found. The patient felt faint after the operation, but recovered readily.

December 11, 1,300 c.c. N, no sputum. December 19, 1,400 c.c. N; general condition excellent. December 26, 1,100 c.c. N. January 16, 1,200 c.c. N; patient now returns to his home in Wisconsin. February 10, 1,200 c.c. N. March 4, 1,400 c.c. N. March 24, 1,000 c.c. N; patient does not cough and does not spit. Weight has increased from 107 to 118 pounds.

CASE VII. Woman, aged 47 years; far advanced; third extent case.

Patient had one hemorrhage in July, 1912. Had steadily failed and lost in weight until December 11, when she was admitted to "Fresh Air" for an artificial pneumothorax. The first insufflation caused much pain, owing to considerable cutaneous emphysema, which extended to the neck. Patient refused further treatment until January 2, when she received 1,260 c.c. N, which was taken very slowly. The needle repeatedly touched the lung, which seemed to retract sluggishly.

January 13, 1,100 c.c. N were taken with ease; expectoration and cough greatly diminished and general condition much better.

February 10 she again took 1,000 c.c. N, and again adhesions appeared to interfere with the collapse. There was considerable pain, from time to time, as if "something had given way," as the patient expressed it.

March 6, 1,100 c.c. N were taken without difficulty. Patient did well until March 15, when a slight hemorrhage occurred.

March 27, 460 c.c. N were given with great difficulty.

April 22 it was discovered that a tuberculous process in the "good" lung was somewhat more active than previously; this, coupled with the fact that it was very hard to find the pleural space, prompted the decision to discontinue the pneumothorax. At the present writing the patient is doing well, coughing and spitting infrequently.

CASE VIII. Man, aged 20 years. Sheet metal worker. Began to cough May, 1912; he lost weight so that in August, 1912, he weighed only 128 pounds. His temperature averaged 102 to 103. He spent the summer on a porch bed, and succeeded in bringing his temperature down to 98.6. His weight had increased to 138 pounds; pulse, 78 to 88; cough much less, expectoration less. He did well until December, when temperature began to rise, cough increased and signs of invasion of the lower lobe of the affected lung (right) became manifest.

December 19, 1,050 c.c. N were injected into the sixth interspace postaxillary line. Sputum, 47 c.c. N.

December 25, 950 c.c. N; January 2, 900 c.c. N; January 20, 1,000 c.c. N. No incident in any case. Sputum, 1 c.c. in twenty-four hours. General condition excellent. March 3, 1,000 c.c. N; March 20, 1,200 c.c. N. Cough almost gone. Patient now living at home, returning each month for his "filling."

Operated on for cavity, six cases.

No. 256. Woman, nurse, aged 23 years; admitted to "Fresh Air" June 21, 1912. Examination: Pulse, 84; temperature, 98.6; respiration, 18; weight, 117½ pounds.

Retractions in supra- and infraclavicular spaces and suprasternal space.

Retarded motion left side; moderate emaciation.

Right lung, prolonged expiration down to second rib. Left lung, mucous râles from apex to second intercostal space; pot-fêlé over second space, doubtful.

Posteriorly, right, no signs; left, mucous râles from apex to seventh rib, high-pitched percussion note both suprascapular spaces.

July 21, weight, 126.5 pounds; respiration, 20; pulse, 94, no fever; few râles in first right interspace. August 21, definite cavitation left upper lobe; pot-fêlé, positive; pulse and respiration same; temperature, 99.6; weight, 135.

September 30, râles were evident in the right apex. Pulse over 100; weight, 138. November 25, no signs in the right lung, cavity in the left lung extends to fourth rib; weight, 124; temperature over 100 at times. As the patient's general condition was distinctly worse, it was decided to attempt to compress the left lung.

On the last named date 300 c.c. N were injected through the seventh interspace, in the postaxillary line.

November 26, sputum 60 c.c.; December 2, 450 c.c. N; December 9, 400 c.c. N; December 19, 450 c.c. N; pulse, 95; temperature, 98.6; respiration, 20.

December 20 a marked emphysema appeared in consequence of exercise and laughter, patient having failed to obey the order to go to bed directly after the operation. January 3 patient had a sharp rise of temperature—102.5—with much digestive disturbance. Pulse, 130; sputum, 400 c.c. daily. January 8 it was possible to inject no more than 100 c.c. N. Temperature down again; sputum, 170 c.c. The cavity was and remained much in evidence, which was not the case prior to the set-back of December 20. January 13 it was impossible to administer more than 70 c.c. N, the pneumothorax having thus contracted. February 3, 70 c.c. N. At this injection a great thickening of the pleural membrane was noted. Temperature, 98.6; weight, 133 pounds; pulse, 96. Sputum, 5 c.c. daily. February 17, with the Brauer pressure apparatus, 60 c.c. N were given. March 27, 100 c.c. N April 14, 100 c.c. N. General condition excellent; patient began work in the hospital laboratory March 12, being employed from three to four hours a day. She will continue treatment.

CASE IX. Male, aged 22 years. Cabinet maker.

Admitted to "Fresh Air" Sept. 12, 1912. Had been sick since March 19, 1912. Was usually tired, appetite poor, color pale.

Examination: Moderate emaciation, no pathologic signs in the right chest; cavity in the left upper lobe extending to the third rib. Musical and sonorous râles extended down to the fifth rib. Left, posteriorly, râles as far as the eighth space.

During the first month of sojourn the pulse and temperature were erratic, ranging from 66 to 100 and 97 to 100.5, respectively.

The second month showed more stability of temperature and pulse, but patient failed to gain in strength. Some gain in weight was made in December. Prior to January 23 the chief treatment had consisted in the rest cure. On this date, as the cavity showed signs of enlarging, 800 c.c. N were insufflated, with the result that all cavity signs promptly disappeared. Sputum, 60 c.c.

January 27, 1,200 c.c. N were given; sputum, 30 c.c.; pulse still around 110; respiration, 20. Patient immediately reported a greatly increased sense of well-being. February 3, 1,200 c.c. N were administered. February 17, 1,050 c.c. N. Temperature now began to be more stable and pulse frequently crossed below the 100 mark. March 10, 1,000 c.c. N; pulse, 96; temperature, 98.6; respiration, 20; general condition good. March 30, 1,000 c.c. N; sputum, 10 c.c. April 17, 650 c.c. N. May 12, 650 c.c. N; sputum, 5 c.c. daily. Still under treatment.

Three other cases (X, XI, XII) were also operated

on for cavity, the signs of which immediately disappeared. All showed improvement in a very short time, with reduction of temperature and pulse rate. Inasmuch as these cases have been so short a time under treatment, it seems proper only to mention them, reserving final report for a future occasion.

I wish to take this opportunity to express my thanks to Dr. John B. Murphy for valuable information and advice; to Dr. J. F. Golden for assistance in instituting this treatment.

SUMMARY

1. Artificial pneumothorax offers much in selected cases.
2. No progressive case should be given up without at least considering this operation.
3. It is better to sacrifice a partially destroyed lung than to await its almost certain destruction.
4. It is possible to save a fair percentage of otherwise hopeless cases.

2733 North Clark Street.

DISCUSSION

Dr. C. A. Elliott of Chicago: *Mr. Chairman:* It is interesting to note that this procedure of the artificial production of pneumothorax is going through much the same history as the tuberculin treatment for tuberculosis. For instance, it was first described as a cure-all for consumption, and then, after it was found that it was not a true cure, it fell into more or less disrepute. It was, however, continued as a procedure by men in Europe, and of late their reports have been so favorable that men in this country have again taken it up and find that it certainly has a place in the treatment of consumption. The optimistic reports that come from the European clinics are almost too optimistic to be credited, but undoubtedly a great many cases may be benefited by this method, when properly selected. It seems to me that the patients who have received this treatment have been too far along in the course of tuberculosis to be much benefited by any treatment. In view of the fact that there is very little danger connected with this procedure, some men are beginning to use artificial pneumothorax in the earlier cases, and apparently without ill effects. In the few cases that I have been able to see and work with the only untoward effects have been a generalized emphysema in two cases and an empyema in one. The patients complain of very little distress after its use, and one sees a beneficial effect almost at once. It seems that the cavities empty themselves more thoroughly and the patients are less toxic, even after the first few injections.

Apparently this procedure is now getting on a rational basis, and I think that in a short time we will all recognize that it has a place and should be used.

Dr. John Ritter of Chicago: As a worker in tuberculosis, I am much interested in this work. Dr. Gray and Dr. Elliott are both doing excellent work in this direction. Dr. Gray, I see, is following a combination of the methods of Forlanini and Brauer. It occurred to me some time ago that that would be the most feasible way of treating these cases.

In apical tuberculosis, especially with cavities, with a large amount of secretion and a large amount of

mucus, with a large number of foci, I think that the artificial pneumothorax is indicated and will do good work. In basal tuberculosis, which we see occasionally in children, paralysis of the diaphragm by means of phrenectomy has been advocated recently. I would like to ask Dr. Gray if he can tell us anything in regard to this method, which is being advocated at the present time?

So far as the optimistic conditions are being reported, I listened to a paper only a short time ago in which a physician reported 40 per cent. or cases of pneumothorax as cured. I do not think in the history of pneumothorax treatment that we have any such favorable reports. I would like to ask Dr. Gray what percentage of his cases are improved or arrested.

Dr. Gray (closing the discussion): The skiagraph shows that on the side of the pneumothorax there is a marked pressing down of the diaphragm and very little movement, which to all intents and purposes means a fixation of the diaphragm, whether a paralysis or not.

I do not believe that under two or three years one can call a patient cured with advanced tuberculosis, even though a pneumothorax be maintained during that entire time, and I have not had my cases under observation as long as that.

In these cases there is always danger of infection of the other side. That we cannot prevent, and it has caused the loss of many of these cases where the treated side has done well. After a time a flare-up on the good side may occur, and death comes fairly rapidly.

THE DIAGNOSIS OF INCIPIENT PHTHISIS—THE POINTS DEMANDING EMPHASIS*

B. G. R. WILLIAMS, M.D.

PARIS, ILL.

"An early diagnosis may be considered a favorable circumstance in the prognosis of pulmonary tuberculosis," asserts Osler, when speaking of the outlook in a given case.

An early diagnosis—the earliest possible diagnosis—is the physician's part in humanity's battle against Koch's bacillus. True our citizens must be educated in the college of prophylaxis; true our research workers must carry out extensive studies in bacterin therapy. But is this the end? Not yet. For such an obligation to our fellow man do we owe, that a coward is he who through faint heart or the hour's exigencies, fails to play his little rôle before the curtain begins to fall and the drama ends, a tragedy.

IS THE ONSET TYPICAL?

There is a tendency on the part of clinicians to classify the modes of onset of pulmonary tuberculosis, while but a second thought would bring to our realization the fact that the very nature of

*Read by invitation before the Wabash County Medical Society, July 23, 1912, at Mount Carmel, Illinois.

the tubercle bacillus would not permit us to speak thus when referring to incipient infection.

Long before the sudden and violent hemoptysis; months before the huskiness of the voice is noticed by the friends; through many days before the fever burns and many nights before the sweating drenches, certain changes are occurring which would lead the watchful physician to suspect the presence of this hidden enemy. I have thought it best to emphasize this point, inasmuch as hemoptysis, vomiting, huskiness of the voice, fever, chills and night sweats are symptoms of established, advanced or even complicated infection rather than of incipient tuberculosis.

The onset is, therefore, usually insidious, perhaps prelude these above-named symptoms by many months; is difficult of recognition as a diseased condition, but is invariably of constant and typical symptomatology which may usually be identified if the physician is on the lookout for the condition and gets right down to business when making his examination.

There is a notion among the laity and indeed among some physicians, which I heard very eloquently expressed some weeks ago by a street faker, who was trying to scare some old farmers into buying his "wonderful catarrh medicine."

"Gemmin, gemmin," he said, "Here is a bottle of getah medicine. Now do you know what getah is? It's when your nose and mouth fill up with stuff and ye hawk and spit from morn till night. But when ye go to sleep, ye forgit to hawk and spit, and it runs down into yer stum-ick and gives ye consumption."

Now this idea of incipient tuberculosis has been laid at the door of our medical forefathers; but such an accusation is unjust, for listen to a few words from men who have labored before the existence of bacteria was known and died before their study was made a science.

Austin Flint, that great student of tuberculosis, in 1868 (fourteen years before Koch announced to the world his discovery) called attention when speaking of special points of diagnostic importance, to a "cough and expectoration, not succeeding an attack of acute bronchitis, and not connected with chronic pharyngitis; the cough at first *dry* and afterward, an expectoration."

Let us go back eleven more years and hear Barelay in his classical description, venture, "It must be regarded as unfavorable when cough has begun without preceding catarrh or coryza, but has been from the first, dry and hacking—changed for one accompanied by thin mucilaginous, rice-water sputa, and that form of ex-

pectoration has been followed by thick yellow phlegm."

SYMPTOMS OF INCIPIENT INFECTION

Now the most common "first symptom" is, alas, one which is not of startling abruptness nor in fact usually brought to the attention of the physician until others have appeared—I speak of a slow but steady loss of weight. But it is often our good fortune and, indeed, the good fortune of the patient that this fact is detected even though he may consult us in regard to other matters of health.

Here is an example: A young lady averaged 100 pounds in the summer and 105 pounds in the winter. During the past winter she did not gain her usual 5 pounds, but on January 1 weighed something like 98 pounds. She remained apparently in excellent health and good spirits; but during the month of January lost 2 more pounds and in February 3 pounds. Few people watch so closely alterations in their weight, but this young lady consulted her physician on this very point, though scarcely alarmed. The physician questioned her closely, but was able to bring out no history of suspicious symptoms. "No," she declared, "I have not coughed," but even as she finished the sentence, cleared her throat with a rasping sound. A complete examination followed and there was no question but that the tubercle bacillus had commenced his dreadful work.

Another woman complained that she had lost no more weight than her sister, whereupon the physician replied, "But, madam, you have no weight to lose while your sister has plenty to spare."

If I were to submit this question to a vote in your society, there is no doubt in my mind but that you would place it at the head of the list as most important in the diagnosis of early tuberculosis. As I have said, the patient has either unfortunately failed to keep tab on his weight or has not appeared for advice until other symptoms have thrust themselves on his attention.

I am inclined to regard languor as a symptom of importance secondary only to loss of weight; but in this connection I do not wish to be misunderstood. Languor is not typical of tuberculosis, except that it appears very early in this disease—much earlier than in the anemias in which it is a more constant symptom in the late stages. It may be defined as a "happy languor" as contrasted to the "anxious languor" of the other eachexias. As the older writers have expressed it, the patient may boast of excellent health while

every movement of the body gives token of feebleness and languor. His voice is weak as he states that he never felt better in his life; and he grasps your hand feebly as he tells how much work he can do.

This brings us to a third symptom of perhaps no less importance, but so opposed to the concepts of pathology and symptomatology as to lead us astray very quickly unless we are on the lookout. While our patients with cold in the head, rhinitis, sinus disease and asthma, buy lung cures and pester us with the never-dying delusion that surely their days are numbered; our consumptives are brought to us for diagnosis, dying, but stubbornly maintaining that they never felt better in their lives. Now there are, of course, exceptions to this statement; but I pass them over without comment for fear even a terse description might lessen the emphasis which I would place on the usual class.

What relation the tubercle bacillus bears to the opium poppy, I do not know, but, in truth, I have come to believe that the essential poison of this germ resembles very much in its action our drug morphin. Let me point out some of these similarities:

1. The chronic intoxication which gives to the morphin fiend a feeling of well-being, varies but little or not at all from that of the consumptive.

2. Either person remains happy in this sweet but damning influence.

3. Either person grows deceitful or even lies that he may not by his own lips convict his master. Fear of exile from those not infected does not cause this symptom; for it was observed many years before the contagiousness of tuberculosis was known.

4. The morphin fiend loses all regard for conventionalities; the consumptive cares not whom he may infect.

5. In either, there is an abulia, or a deficiency of will power. I *will* give up morphin! I *will* carry out your advice and treatment! Alas, the poppy and the tubercle bacillus do not will it.

6. Certain physical signs and symptoms resemble each other very closely—though perhaps I am carrying this comparison a bit too far. Apply De Fursac's physical symptoms of morphinomania and behold a classical picture of consumption—loss of flesh, diarrhea or constipation, pallor of the skin, muscular asthenia, tremors, etc., symptom by symptom. And for the chills, fever, sweats and more rapid death, these are not in the plan of Koch's bacillus; but

as I shall show below, the result of secondary infection by the staphylococcus or other germs.

Morphin is a cruel master; no less so the tubercle bacillus which eliminates a poison that, though doubtless of different chemical composition, is identical in action. The tubercle bacillus is a true parasite; and its usual aim is to keep the patient alive as long as possible.

And what of the consumptive bliss? The victim, though languid, does not realize it. He appears to be in a brown study and perfectly happy. Ofttimes, like the morphin fiend, he loses his sexual desires and sexual powers very early, though this is not invariably the case. He is not forced to seek his poison, but this is supplied by the willing micro-organism. He passes through an euphoria, a true honeymoon of rapture which may be even more marked in the later stages of the disease. If pains are present he does not complain, unless they grow unbearable. Unlike the drug slave, he does not sleep away his time, but usually goes to the opposite extreme. He likes to work, he lives in pleasant reverie and ambition, ideas come easily, worry disappears and life assumes a smiling aspect.

Recall that this is not only a happy languor, but the patient, doubtless unconscious of the fact, becomes deceitful. Do not ask your patient if he has had a hemorrhage, but put a leading question—"When did you notice blood last?" or "Of course, you have coughed up a little blood, but I suppose in no large quantities?" It is remarkable how unwilling patients are to confess; and this cross-questioning must be clever indeed to make certain the point. They will conceal, at the command of the bacillus, this blood from their friends, or will explain its presence by a history of nose-bleeding.

As our fourth symptom in importance, we may place cough. Now true cough is by no means an early manifestation of tuberculosis, except when this disease complicates pneumonia or whooping-cough. Tuberculosis rarely or never is secondary to diseases of the bronchial tubes, though this fact is usually overlooked. A husky cough is not an early symptom in true pulmonary tuberculosis. It may appear as the first *pronounced* symptom, but surely other manifestations have preceded it many months. Again, the husky bark of a tuberculous laryngitis may give warning that pulmonary involvement is to be expected later.

I have mentioned above that this is a dry cough. It is in fact so dry at first that it can scarcely be termed a cough, but rather an

"ahem" or clearing of the throat. It might be inferred that the patient is nervous and ill at ease. It is best, therefore, to watch him when he is not aware of this scrutiny. Change the subject, give him a paper to read and leave the room to fix up the medicine; and then play eavesdropper. Later the cough becomes moist and presents other features which scarcely concern this paper. I usually assume a cough to be tuberculous until proved otherwise.

The patient may experience some pains, but he usually makes no mention of them to the physician; and here, again, is an evidence of the damning intoxication. Close inquiry may often bring out the fact that these pains are present, but not severe, and are of a roving character. They are usually located about the shoulders and upper portions of the chest.

As sixth in importance, I would describe a very constant though baffling symptom—accelerated breathing. Normally the count varies from sixteen to twenty in the temperate regions. A count above these figures is of considerable importance, but easier said than done. Invariably the patient will be cognizant that you are counting his respiration. Did you ever *try* to breathe naturally? You cannot do it. I have attempted different methods, but usually met little success. Other examinations of the chest or, indeed, the entire front of the body, bring out alterations in the respiration rate. I have failed to eliminate the voluntary factor by pretending to take the pulse. Just at present, I believe that I am accomplishing my aim by pretending to measure the head. For this purpose, I stand back of the patient in position where I may count the inspirations and then make a large number of measurements with a pelvimeter, but pay no attention to these—simply devoting all my time to counting respirations, dropping a remark now and then in regard to the position of the head.

Concerning hemoptysis, I have spoken. Though not constantly among our earliest symptoms, its presence is of value in a diagnosis, especially if drawn from a reluctant patient by clever cross-questioning.

These constitute the chief earliest symptoms of pulmonary tuberculosis. Let me hastily review:

1. Slow but progressive loss of weight when patient does not have it to spare.

2. A happy and deceitful languor and physical inability.

3. A morphin-like euphoria, abulia and selfishness.

4. A dry hack or clearing of the throat.

5. Roving pains about the upper chest, concerning which the patient offers no complaint.

6. Accelerated breathing.

7. Hemoptysis, a history of which is often difficult to obtain.

True enough, other symptoms may appear early, but have less diagnostic value, and are subject to many variations. I shall list these briefly:

1. Diarrhea or constipation.

2. Suppression of menses.

3. Inequality of pupils.

Before taking up the physical signs, let me briefly dismiss several symptoms which appear in established and advanced phthisis, and which have no place in this paper. I refer to chills, fever, night sweats and vomiting. By nature, the tubercle bacillus is a selfish germ, seeking not the company nor the assistance of other bacteria, but preferring to work alone and hidden from these. In fact, he doubtless considers them his enemies; and I am certain that he actively destroys many of them when they attempt to keep him company. A notable instance is seen in whey-like fluids of cold abscesses where the true pus germs, when introduced, are quickly destroyed.

But after considerable involvement of the lung has taken place, the tubercle bacillus, finding much freedom, appears to permit certain forms of staphylococci and other germs to make their home in the deserted cavities. These newer arrivals multiply rapidly and lead to the formation of true pus with its attendant chills, fever and sweats.

You have been told that the tubercle bacillus may (by virtue of treatment or unknown reason) suddenly cease his work of devastation and lie potential for weeks, months or even years. You may have apparently witnessed this phenomenon in your practice, but be not deceived. So long as a tubercle bacillus is present, just so long is he *attempting* to slay your patient. Remissions in the course of tuberculosis may be explained by the destruction of the specific micro-organisms or of secondary invaders. Leave but one acid-proof bacillus freed from restraining influences and he will spare not a second to kill endothelium, coagulate blood and dare the lymphocytes to destroy him.

PHYSICAL SIGNS AND TESTS

The idea that pulmonary tuberculosis cannot be diagnosed save by the presence of certain physical signs, clings to the average physician

as obstinately as the old man of the sea did round Sinbad's neck. From what I have said concerning the symptoms, it follows that the idea is wrong and is likely to lead to a diagnosis only of the established, advanced, and complicated cases.

Henry Sewell has declared that the natural history of pulmonary tuberculosis, involving as it does gradual alteration by insensible steps of the normal structure, size and elasticity of the thoracic viscera, would seem to imply that we can never hope to determine by physical means the very advent of the disorder,

However, certain physical signs may aid us at times, even in the earliest cases. I am inclined to name as the most important of these a local increase of the temperature, directly over the portion of the lung involved. Suppose that the right apex has been invaded by the tubercle bacillus, the skin directly over the point shows a higher temperature than in other locations. The thermometer must be reliable and very accurate. The bulb of the ordinary clinical thermometer may be rolled into a fold of the skin. As I shall indicate below, the skin of the consumptive early loses its thickness, so that this manipulation is easily carried out. Butler recommends the use of a special instrument, the base of which has been flattened or coiled so as to present a large surface for contact with the skin. Although the local increase of temperature when present is of great importance, its absence is very frequently observed and does not speak against the presence of phthisis.

As a sign of importance secondary only to the above, a remarkable thinning of the skin is noted. As the weight of the body decreases, so do the storehouses of subcutaneous fat melt away. The skin may often be picked up as if it had no attachment to the fascia, long before the clearing of the throat is noticed.

I wish to lay third emphasis on a sign which was described by Austin Flint many years ago, but, like many other good things, has been dropped by the wayside. The scapula on the affected side is often restrained in its movement upward during inspiration, and seems tightly bound in its lowest position. The patient's chest is stripped—as, indeed, it should be for all these examinations—and the excursions of the scapulae carefully noted and compared, both in ordinary and forced inspiration. For this measurement, I usually request the patient to sit in a chair with a low back, and the latter is taken as the base line for the measurements.

The other physical signs you all know, and need no special treatment outside the average text-book. That their value may not be overlooked, I am listing them without comment:

1. Fine and *persistent* crackling râles over point of lung involved. These may be heard during the cough or immediately afterward; also at the end of a forced inspiration. A little potassium iodid given a few hours preceding the examination may aid in bringing out these râles.
2. Slight diminution in diaphragmatic excursion on the side affected.
3. Diminished vesicular breathing or even bronchovesicular breathing over point involved.
4. Whispered voice may sometimes be heard over point involved.
5. Lagging of chest wall on involved side during inspiration and expiration.

THE TUBERCULIN REACTION

Now that our first great enthusiasm over tuberculin as a diagnostic aid is past, we find ourselves limiting our assertions or making them but half-heartedly. My experience with tuberculin has been disappointing, and I am not afraid to acknowledge this. The critic has told me that I do not know how to use tuberculin, but let us return the problem to the research worker until we can make and prove diagnostic statements after its use. Others are backing down somewhat more slowly, and as I read this, I am perfectly aware that the positive tuberculin reaction means "obscure tuberculosis"—if you wish to be in style—*obscure* tuberculosis. Here is a soft cushion for the fall. Many of us, however, have hit the ground heavily and nursed our bruises quietly. Obscure tuberculosis? This may be defined, so we are informed, as a positive reaction in an individual presenting neither symptoms nor signs of tuberculosis. Well, what are you going to do about it? Watch him closely, for he *may* develop the disease. And neglect the man who fails to show the reaction? The truth will out. Hear Butler, a man to whom we all listen when we are searching for the practical things in diagnosis: "A person without symptoms or physical signs, who reacts to tuberculin does not require treatment for tuberculosis."

THE SPUTUM EXAMINATION

After an examination of hundreds of specimens, I feel safe in saying that tubercle bacilli are always loosed into the sputum before fever appears (reference to the ulcerative or usual form of tuberculosis). Osler says that bacilli and elastic tissue may be present without definite physical

signs and may come from a very small focus not discoverable on examination.

There is an impression among many physicians that tubercle bacilli are found only in the later stages of phthisis, which conclusion is certainly erroneous. Now here is just the explanation of the idea. In therapeutics, only the specific drugs appeal to us, while in the field of diagnostics we are determined to call only the pathognomonic symptom or sign to our aid. It takes broader men, however, to practice medicine, as we find daily to our sorrow. Because tubercle bacilli have not been found in every bit of saliva, at every examination and in every patient whether with ulcerative or other forms of the disease—yes, even often in sputa of putrid bronchitis and what not; because this bacteriologic procedure has not stood all these unjust tests it is often inferred that the examination is worthless. Apply the same criticism to any *one* symptom or any *one* sign which I have mentioned and it sinks as surely as a snow fortress beneath a torrid sun. If but one drop of true sputum can be obtained, it is usually possible by certain methods, to demonstrate the presence of these germs.

Nor does the diagnosis of tuberculosis from a laboratory standpoint rest alone on the finding of Koch's bacillus; and a proper report does not end with a curt "positive" or "negative" scrawled on a printed form. Now, did you know that tuberculosis was often diagnosed and that on sputum findings alone, at least twenty years before the tubercle bacillus was formally charged with a share in the disease?

What of the presence of elastic tissue or "coughed-up lung?"

What of the presence of well-preserved elements or those undergoing a *dry* or coagulation necrosis as contrasted to the *wet* or suppurative changes noted in putrid bronchitis?

What of the presence of erythrocytes or of hemoglobin?

What of the negative evidence supplied by mucous spirals, heart failure cells, etc.?

What of the presence or absence of serum albumin, as I shall show below?

What of the presence of tyroid or granular masses which show by their peculiar staining characteristics their true nature?

What of the presence of large numbers of mononuclear cells—true tuberculous pus?

What of calcified material?

What of lung sand and stones? What of the Hagemann specific test? What of the inocula-

tion of egg medium? What of the diagnostic inoculation of guinea pigs?

The man who examined the sputum was blind to all else but the presence or absence of acid-fast rods. The report says "Negative." We are prompted to reply by question, "Negative *what*?"

Now let us return to a consideration of the bacillus itself and some of the difficulties attending its identification. Presume, if you will, that we close our eyes to all other findings, valuable though they may be, and limit our endeavors to and finding of the little rod. Is this as difficult and disheartening a procedure as some would have us believe? Scarcely; still we must not always expect to find long delicate rods, occurring invariably in clumps, but often attenuated, or capsule-like forms or exalted, or coccus-like varieties.

I must not forget to emphasize several recent methods of sputum analysis which bid fair for a place among our standard tests. I refer to the Lissilur and Pricey serum-albumin test which is under certain conditions specific even before the bacilli appear and to which I have given attention in other papers: to the inoculation of egg albumin and to the new Hagemann test which is apparently a specific one as well as easily performed.

Finally, before finishing my examination of a patient, I invariably ask myself this question: "Why should *not* this be a case of pulmonary tuberculosis?" This, indeed, is a wise question. Here is a patient with build which we regard as suspicious, or with a hereditary taint. This man has worked in an elevator and his lungs have been bombarded by irritant dusts. This boy has been kicked in the side by a horse. This woman has made shirts in an attic or this one has bottled beer in a basement or guzzled it in a gutter.

This young lady has nursed her consumptive mother or has exposed herself to colds too numerous to mention. Here is an important point, and I wish to make a prediction. We have recently learned that leprosy is acquired only by repeated exposure and repeated infection; and this discovery has opened up a new book in the science of bacteriology. Recall the close family relation between the two acid-fast bacilli. Furthermore it has been found that by the tubercle bacillus animals may be sensitized to leprosy. I am convinced that only by repeated infection do many of us acquire pulmonary tuberculosis. If I do not see it incorrectly, the autopsy proves as much, and I am not so certain but that it may be seen in practice. Here is the prediction: that the laboratory proof will soon be forthcoming that *repeated*

tuberculous infection sensitizes to active and progressive phthisis. Perhaps I am wrong, but in such contingency it may be noted parenthetically that the subject of tuberculin would present rather different aspects not only in diagnosis but in therapeutics. The trend of these investigations gives the warning. Obscure tuberculosis may not prove so soft a cushion after all.

CONCLUSION

The tubercle bacillus is a sneak. The micro-organisms of the acute infections attack boldly, are overcome at once or begin a desperate and aggressive battle. We cannot but admire their courage. But the germ of consumption enters the lungs silently and lies in hiding seeking vantage ground, waiting and waiting; perhaps for days, perhaps for years. And when it obtains a little foothold, it struggles to attain a greater one. And thus for months it may be slowly gaining ground without giving one symptom.

It loosens its treacherous anodynes into the body of its victim, closing his eyes not only to personal danger, but to the rights of others. One person dies of tuberculosis in America and Europe every thirty seconds—two every minute—3,000 every day.

Before the people rises a hand and a voice, "Lo, here! You must destroy your sputum." In echo another claims, "Lo, here! Here is the truth! You must sleep out of doors!"

But one accusing finger continues to point out the physician and his responsibility, "*Diagnose your cases in their incipency!*" And hesitate not in debate, for the old Gentleman of the Forelock cannot put aside his scythe and hour-glass and listen, but must hasten on his way.

THE EARLY IDENTIFICATION OF PULMONARY TUBERCULOSIS*

SUMNER M. MILLER, M. D.

PEORIA, ILL.

Notwithstanding the well-known fact that the successful treatment of tuberculosis of the lungs depends on its early inauguration, large numbers of consumptives continue to reach an advanced stage, undiagnosed as to their affliction or its stage, or else they fail to receive the benefits of the timely application of the well-known principles of treatment. This remark is inspired by a scrutiny of the many cases seen in dispensary

practice, whose histories go back for months or years, but in whom the correct diagnosis had been deferred till disastrous progress had been made. Moreover, in a good proportion of the cases which had been recognized, the treatment was inadequate, and not in accord with modern principles. This delinquency depends, I believe, upon the lack of appreciation on the part of many physicians of the significance of relatively slight physical signs associated with equally significant subjective symptoms.

It cannot be sufficiently emphasized that the presence of slight physical signs in the lungs is an evidence of considerable lung involvement, and of considerable progress of the disease. The interval between the first infection and the presence of impaired resonance, roughened breathing and rales must be sufficient for the growth of tubercles and their fusion to form a consolidated mass of appreciable size. This interval at the least must be several weeks, and it may be much longer, even being prolonged to months, according to the massiveness of the infection and the resistance of the individual. During this period subjective symptoms are present without physical signs, or these are quite vague, or the infection may subside completely. This period is what we may call the silent period or interval during which no definite findings are apparent. It may be quite short in a rapidly advancing case, and it will not be observed in a great many early cases, because we do not see them early enough.

Moreover, the earliest physical signs that appear following the silent interval are so slight that they are of value only to the trained specialist and they have little significance to many physicians—those who are most apt to see the early cases. Much as this is to be regretted, there is no prospect that earlier diagnoses will be made in the future if we continue to be dependent largely on the physical examination. The dictum, no lung findings, no tuberculosis, has found too wide acceptance. In view of this, I feel that we should come more to consider the subjective findings and the general aspect of the case during the silent interval and during the succeeding interval marked by physical signs that are not striking. The adoption of a different attitude toward the early cases, with a definition of them as regards their general condition and with more regard for the subjective, and less for the vague

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or absent objective findings, will work a material improvement in their earlier identification.

The fact that tuberculosis may be present without lung findings should enable us to establish a diagnosis for working purposes which, while not disregarding the physical signs, will obtain in the absence of them. If we get tuberculosis at the most advantageous period for treatment, we get it almost before we can make an exact diagnosis. The deceptiveness of early tuberculosis lies in the apparent good health of the subject, coupled with the absence of lung findings, and this fact is not sufficiently appreciated, namely, that there is a large group of cases of early tuberculosis that do not present physical signs during the most vital period of the disease as regards treatment—the incipient stage. To lay too great stress on the physical examination may lead to error. To deny the presence of tuberculosis by reason of their absence will invite disaster if the tread of subjective symptoms, malaise, cough and afternoon temperature are not considered equally with the physical findings. As illustrative of this group, I have selected three cases showing varying phases of the early appearance of tuberculosis of the lungs without physical signs, in two of which definite lung findings later appeared to confirm the diagnosis. In the third case, the patient has thus far been able to keep the disease in abeyance, and it has never progressed to the stage where lung findings are present.

Case 1. A woman aged 35 years, married; family history negative, previous illnesses, two attacks of pleurisy, two and five years ago. She complained of malaise and prostration, cough, without expectoration, of three weeks' duration. The tuberculin test was positive. She had a daily afternoon temperature running between 99° and 100° during the first month that she was under observation, during which period the lungs were negative to many examinations. Lung findings later developed in the right infrascapular region.

Case 2. A man, aged 25 years, married, no children; family history, has one sister suffering from tuberculosis. Personal history negative. He had had a cough with some expectoration for four months on first coming under my observation, but the tubercle bacilli were not found. He had lost in flesh 10 pounds, and proportionately in strength, so that he was often obliged to give up his work for several days at a time. The temperature was found to range from 99.5° to 101° . It was six weeks thereafter before lung findings were discoverable, and

nearly six months after the first subjective symptoms developed. Fine scattered rales, with harsh breathing and impaired resonance were heard well below the clavicle on the right side. The tuberculin test was positive.

Case 3. A woman, aged 37 years, married, five children, has been under my observation for one year. The family and personal history are negative. One year ago she began to experience malaise, and prostration. She developed a cough, which has persisted intermittently since then, but without expectation. For several months she had an afternoon temperature above 99° , and occasionally 100° or more. Her temperature remained normal for several months after close application to treatment with but occasional lapses. She recovered her strength, the cough diminished, and she was practically recovered. She has had a return of all symptoms for two months, cough, temperature and malaise, and since then on resuming treatment has again thrown off the infection. There was loss of flesh. The tuberculin test was positive. During this entire period there was never any discoverable evidence of disease in the lungs or elsewhere. Examinations of the blood for plasmodia were negative (she had previously been subject to malaria).

These cases are selected from a number of similar cases as illustrative of a group of cases of tuberculosis in which for a varying period of time no lung lesion can be definitely located. The symptom complex is sufficient to justify the diagnosis, at least for the purpose of treatment, and to characterize them as suspected incipient cases. They are cited to demonstrate the fact that tuberculosis of the lungs may be present without physical findings.

Therefore it will be a safe rule to follow, with the speediest return to health, to characterize a case having the triad of symptoms, malaise, cough with or without expectoration, and daily afternoon temperature as incipient tuberculosis in the absence of confirmatory physical signs. Such a patient should, of course, be placed under observation, with the two-fold object of a more accurate ultimate diagnosis and of actual treatment at a time when treatment is most speedily effective. Many such cases recover, as in the third case reported, without ever manifesting the objective signs of tuberculosis, the disease never having progressed sufficiently to give rise to them. The great majority, however, go on to develop the active signs of tuberculosis. About 10 per cent of the cases of early tuberculosis that I have seen do not present lung findings at the first examination, or during the first few weeks of obser-

vation. A good many of them show the first evidences of the disease in some other portion of the lung than the apex. According to Grawitz, 12 per cent of the cases of tuberculosis of the lungs originate outside of the apices. It will be more readily understood that physical signs are apt not to be present in incipient tuberculosis when we remember that areas at the surface of the lung must attain an extent of four to six centimetres and a thickness of two centimetres before they are capable of altering the pulmonary resonance, and that smaller foci, such as lie deeper than five centimetres entirely escape observation. As the individual tubercle usually requires two to three weeks for development, a considerable time must elapse before a tubercular focus can attain anything like the size necessary to become manifest by percussion. This holds true even of the apices, in which the vibrating mass is of considerable size, and in which pathologic areas even smaller than the minimal size are at times discernible clinically. Moreover, so long as they are isolated and separate tubercles, there will be no auscultatory variation, and so long as there is no erosion of the mucosa by the growing tubercles, there are not apt to be tubercle bacilli in the sputum. It is only when the tubercles extend to a large number of adjacent alveoli, or in fact some time after the first infection, that we are able to detect any changes by auscultation. This is the silent period as regards tangible objective signs—the period between the date of first infection and the appearance of the objective evidences thereof. This is the true incipient tuberculosis.

The most striking thing about the early cases is that the weakness of which they early complain is severe, out of all proportion to the appearance of robust health present in many instances. This loss of strength is commonly encountered early in the course of the disease, before the secondary anemia and emaciation are present to which it may later be attributed. It is probably due to the absorption of tubercle proteins. Consumptives frequently manifest this weakness long before the cough or other subjective symptoms are noticed, and questioning will develop that there has long been an aversion to work, a weariness and exhaustion with no apparent cause. Many times this is so insidious in its onset that the patient hardly realizes when it first appeared.

Associated with the syndrome of cough, malaise and temperature, which are suspicious if not pathognomic, there are a variety of other manifestations, chief among which are hoarseness, often present early, and almost invariably noted later, hemoptysis and pleurisy. It is important to note that the two later symptoms may have been present months or years before the outbreak of the pulmonary lesion, or again they may introduce it. There are moreover, a train of secondary symptoms that may tend to obscure the essential ones. These are to be noted in order that they may be given their proper proportion. Following the malaise and the initial symptoms come sooner or later the effects of the lung invasion upon the health, with the deviation from normal color, and the loss of weight, and the manifestations of weakness of physiologic function. Particularly loss of appetite and gastric disturbance are often associated with the prostration and may be so marked as to overshadow the real condition. Again the dyspnea, or the chilliness, may throw the unwary off his guard.

The symptoms may then be divided into three groups; first, the essential symptoms, the malaise, cough and temperature; second, the associated symptoms, also directly of a tubercular origin—the hemoptysis, hoarseness and pleurisy; and third, the secondary symptoms, due to the commonly associated gastric disorder or the secondary anemia and having no particular relation to the tuberculosis as such. This latter group is mentioned chiefly in order that these symptoms may be given their proper value lest they mask the real condition. This they are apt to do in the very group of cases under consideration—those which show no lung findings. It is easy therefore to see how the not infrequent error of mistaking tuberculosis for a gastric disorder, for instance, may arise, when the gastric symptoms are unduly prominent and obtrude themselves upon one's attention too insistently.

So much has been said concerning physical findings that it has come to overshadow the subjective symptoms in the mind of the physician and the accepted picture of early tuberculosis is one of rales and dullness, instead of a picture of small scattered tubercles that give forth no sounds by which they can be identified, but which are manifested in the patient in subjective symptoms. The physician must appreciate that the early case

is a barren one from the standpoint of physical examination.

In closing, let me emphasize again:

1. That there is a silent period in every case of incipient tuberculosis of the lungs, during which objective signs are lacking.

2. The absence of lung findings should never of itself, in the presence of other suspicious circumstances, allow us to rule out tuberculosis.

3. There is a constant group of symptoms whose presence should lead us to suspect tuberculosis, irrespective of the presence or absence of lung findings.

4. A group of secondary or subsidiary symptoms may so eclipse the essentials, that in the absence of pulmonary evidence of the disease, we are apt to be lead astray.

DISCUSSION

Dr. John Ritter, Chicago: The paper read by Dr. Miller is very interesting and instructive. I have been engaged in tuberculosis work for some time, now devoting my time almost exclusively to it, and the remarks made by the essayist with reference to early tuberculosis and diagnosis are to the point. We physicians too often look for the physical signs when we should depend upon and look more particularly to the clinical picture. And very often the clinical picture tells us much more than the physical signs. There is the stage of what we may call the pre-tuberculous and when you get rales, increased fremitus, a high pitched note, the breath sounds increased, the patient has already long passed this pre-incipient stage and is positively tuberculous. We should try to make the diagnosis in these cases before the physical signs appear. Very often the use of tuberculin comes to our aid in these cases. In about 30 per cent of the cases of incipient tuberculosis, where the clinical picture is positive but the physical findings meager, the injection of one milligram of tuberculin will bring out rales, where you before only suspected the condition but you could not prove it. Give a patient an injection of one milligram of tuberculin, take the temperature and pulse before giving it, say the temperature is 99.5, with a pulse of 80 or 90; the next morning the patient comes back with a temperature of 101.5 or more, with a pulse of 100. If now you make a careful examination, you will find over the apex in about 30 per cent of the cases distinct rales. You will find an hyperemic area about the size of half a dollar at the point of injection. Watch the case and you will find that rales can be heard distinctly for two or three days, but when the hyperemia disappears at the infected point the rales disappear also, and you are in the same position as you were before, but you have made the diagnosis in the meantime. In those cases tuberculin comes to our aid.

TUBERCULOSIS OF THE KIDNEY*

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CAIRO, ILL.

Renal tuberculosis occurs most commonly between the ages of twenty and thirty. However, it may occur in childhood and not infrequently in persons in the third and fourth decades of life. Men and women are about equally affected. Among the predisposing causes of renal tuberculosis are a low degree of vitality or a lowered resistance against infection and changes in the kidneys which favor infection, as congestion following traumatism, renal stasis, calculous, inflammations and abnormal mobility. Gonorrheal infections also predispose to tubercular infections in the genito-urinary tract. The exciting cause is the tubercle bacillus which gains access to the kidney in a great majority of the cases through the blood stream.

Tuberculosis of the kidney may be a primary or secondary infection. Strictly speaking it is in the great majority of the cases a secondary infection, in the sense that a focus of tuberculosis occurs in some other part of the body, as the bronchial or mesenteric glands, bones, lungs or elsewhere, the bacilli derived from such sources infecting the kidney through the blood. By a primary infection we mean that it is the first organ involved in the genito-urinary tract. Only one kidney is involved in the early stage of the disease in 90 per cent of the cases.

PATHOLOGY.

In describing the pathologic anatomy of renal tuberculosis, it is essential to distinguish between the descending or hematogenous and the ascending or urogenital modes of infection. In the hematogenous form the bacilli enter the kidney through the blood stream from the general circulation. They are arrested in the parenchyma, either of the upper or lower pole, the central portion being the last affected, as a rule. Here they begin a process of tissue destruction not unlike that in other organs of the body. The lesions are at first small areas of round cell infiltration, which coalesce and form hard grayish or yellowish nodular masses or tubercles. These in time soften and necrose, resulting in cavity formation, which contain a characteristic cheesy detritus. These areas are usually surrounded by in-

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terstitial fibrous tissue. Not infrequently as the process spreads by direct extension a tubercle will break down and rupture into the pelvis of the kidney, resulting in a large ulcerating lesion, discharging tubercle bacilli into the urine, infecting the ureter and lower urinary tract by direct urinary contamination. Less frequently, and as a rule only after the process has become more extensive, a tubercle may rupture through the capsule of the kidney into the peri-renal tissues resulting in a tubercular peri-nephritic abscess.

In the ascending or urogenital mode of infection, the ureter and renal pelvis are at first affected. Their walls may become thickened and dilated or ulcerated and stenosed. After the ureter and bladder have become involved, the infection frequently travels up the opposite ureter, infecting the second kidney. Most cases of renal tuberculosis, which run a chronic course, or are not treated early by surgical means, become secondarily infected by pyogenic organisms, most commonly with the colon bacillus or staphylococcus, which not only hastens the process of tissue destruction, resulting in the formation of abscesses, pyelonephritis and pyonephrosis, but changes the clinical picture, by giving rise to such symptoms as renal pain, rigors, high fever, leucocytosis, etc.

SYMPTOMS AND CLINICAL COURSE

The symptoms of renal tuberculosis are variable and indefinite. A tubercular process may be present in the kidney for months or years, without producing any symptoms referable to the kidney itself. In fact renal symptoms are the exception, rather than the rule, until the disease has become well advanced.

When the focus ruptures into the pelvis of the kidney a sudden, but usually moderate hemorrhage, may result. This is followed by painful and frequent urination. This symptom, painful and frequent urination, often occurs early and is perhaps the most constant and persistent symptom of renal tuberculosis. It occurs both night and day, and becomes more marked after the tuberculous process invades the bladder. The pain occurs during the urinary act and at its termination. Polyuria is a very common and important symptom. Suter states that of his 60 patients 53 presented symptoms of vesical catarrh; only 7 complaining of pain in the kidney region. Kummel says, "My experience teaches

that every case of cystitis, in women especially, which can not be attributed to a gonorrheal infection or to infection introduced by a catheter, should be suspected of being tuberculous and calls for repeated and thorough examination for the tubercle bacillus and the employment of whatever other modern diagnostic resources we have at hand."

A sudden moderately severe hematuria may occur as an early or initial symptom. Disappearing after a day or two, we may be misled into believing that the danger which is just beginning has passed. The hemorrhage is usually not so severe as that caused by neoplasm, nor attended with so severe pain as that due to renal calculus. Blood may be entirely absent from the urine at times, and visible to the naked eye only at intervals of months, but it can be frequently and in some cases constantly demonstrated microscopically. When pain in the loin occurs, it is usually more or less steady and of a dull aching character. Renal colic may result from the passage of blood clots or masses of necrosed tissue.

The most common systemic symptoms of renal tuberculosis, which usually occur sooner or later in the course of the disease, are loss of weight, general weakness, anorexia, fever and rapid pulse. However, like tuberculosis elsewhere in the body, these symptoms may not appear until the disease is well advanced. When secondary infection occurs, and especially in those cases in which a pyonephrosis or peri-nephritic abscess develops, marked septic symptoms supervene. In this stage high temperature is present, rigors and sweating frequently occur and loss of weight, strength and appetite may be very marked.

DIAGNOSIS

The mortality of renal tuberculosis will be lowered and our operative results improved, in direct ratio to the time at which we make a diagnosis and the proper surgical treatment is instituted. In our efforts to arrive at a correct diagnosis we must aim to determine 1, the presence of tuberculosis of the kidney; 2, if present, which kidney is involved; and 3, the condition of the opposite kidney.

To determine these points, we may resort to the following methods of diagnosis:

1. The Symptoms and Physical Signs. The symptoms have already been described. The patient should be examined for evidences of tuber-

culosis in other parts of the body. Palpation of the loin may reveal nothing. A tumor may be present, but is more often due to a complicating perinephritic abscess or a closed pyonephrosis than to an uncomplicated tubercular infection. Tenderness is often present and is at times extreme. Muscular rigidity is also often well marked.

2. *Urinalysis.* The urine usually shows an increased amount in a twenty-four hour specimen. It is practically always acid in reaction and of a low specific gravity. Albumin and casts are usually but not always present. Before mixed infection occurs, the urine from a tubercular kidney contains little pus, but when mixed infection is present there is a definite pyuria. The tubercle bacilli are present in the urine in practically all cases when the lesions communicate with the pelvis of the kidney. They may be demonstrated microscopically in the centrifuged urine in over 80 per cent of the cases.

3. *The Tuberculin Tests.* The tuberculin reactions are of value in certain cases as an aid to diagnosis. A positive diagnosis, however, simply indicates the existence of tuberculosis somewhere in the body, but does not throw much light on the conditions in the kidneys. The subcutaneous injection of Koch's old tuberculin is the most reliable test in adults. The vaccination test of von Pirquet or the inunction test of Moro are very reliable in children.

4. *Animal Inoculation.* Animal inoculation or the injection of some of the suspected urine into the peritoneal cavity of a guinea pig is the most reliable single diagnostic test. The injection should be made under strict aseptic precautions. If alive at the end of six to eight weeks it should be chloroformed, an autopsy performed and a search for the tubercles made in the peritoneal, mesenteric and inguinal glands.

5. *Cystoscopy.* The bladder may appear normal through the cystoscope, or later in the course of the disease characteristic changes occur in the bladder wall. These changes are evident about the mouths of the ureters, and are characterized by inflammation, small nodular growths or tubercles and ulcerations. The ureters may be swollen and edematous. The diagnosis of vesical tuberculosis is always strongly suggestive of renal involvement, as vesical tuberculosis is always sec-

ondary to tuberculosis of the kidney, epididymis, or prostate.

6. *Ureteral Catheterization.* Ureteral catheterization has in recent years been of great value in the diagnosis of pathologic changes in the kidneys. By its aid we can determine the presence of both kidneys, and can obtain a specimen of urine from each, by means of which we can estimate their comparative functional capacity. It is of the utmost importance to determine the condition and functional capacity of the other kidney before advising the surgical removal of the diseased one.

The four most important methods for determining the functional sufficiency of the kidneys, by means of the separate urines obtained by ureteral catheterization will be briefly described.

1. *The Estimation of Urea Excreted by Each Kidney.* It has been proved that both healthy kidneys excrete exactly the same amount of urea, during and at the same time. If the amount is diminished on one side it indicates a diseased condition in that kidney. This test is very reliable and can be easily made by means of the Doremus ureometer.

2. *The Phloridzin Test.* This test is based upon the fact that, when phloridzin is injected into the circulation, sugar is excreted by the kidneys and appears in the urine. One-tenth grain of phloridzin is injected subcutaneously. Within a half hour as a rule sugar can be demonstrated in the urine. A normal kidney will produce one per cent or more. A lesser amount indicates a defective kidney.

3. *Cryoscopy.* Cryoscopy is a comparison of the freezing points of blood and urine, and depends upon the number of molecules held in solution. Although some urologists favor and utilize this test, it appears to me to be unsatisfactory and impracticable, inasmuch as it requires a rather complicated technique for its performance, and other pathologic conditions outside of the kidney causes it to vary and renders the final results unreliable.

4. *Chromocystoscopy.* In this test indigo-carmin (20 cc. of a 0.4 per cent solution), is injected deep into the muscle of the buttock. The drug should appear in the urine of a healthy individual within 5 to 20 minutes and is delayed in the presence of disease. Phenolsulphonephthalein has also proved of value in this test. It is

given in a grain 0.1 dose, subcutaneously and should appear in the urine in from 10 to 20 minutes. This test does not necessitate catheterizing the ureters, as the coloring matter in the urine can be viewed through the cystoscope as it issues from the ureter.

I shall not attempt in this paper to give a complete differential diagnosis of tuberculosis of the kidney, but will merely name those conditions which must be considered in making a diagnosis. They are suppurative conditions in the kidney, neoplasms, renal calculous, hemorrhagic nephritis, movable kidney, cystic kidney, and the so-called essential hematuria. These can usually be excluded, by means of a careful clinical history, physical examination, laboratory methods, cystoscopy and the x-ray.

PROGNOSIS.

The prognosis of renal tuberculosis depends upon the nature of the lesion, the age of the patient, the presence of lesions elsewhere in the body, the time at which a diagnosis is made and the time and nature of the treatment instituted. In former years the operative mortality was 40 to 50 per cent. Since the introduction of modern methods of diagnosis, statistics have been collected on 292 cases by Watson and Cunningham with an average mortality of 8.8 per cent. The prognosis of cases treated medically has proven unfavorable. There may be temporary improvement, but few authentic cases of recovery have been reported. Bevan states that in 90 per cent of the cases, the lesion is in its early stage a unilateral affair. Therefore an early diagnosis is of the greatest importance for the carrying out of a successful treatment. Braash, in reporting the operative results of the Mayo clinic, states that the immediate operative mortality in 203 cases was 2.9 per cent; 82 per cent were alive one year after operation; 69 per cent being well or greatly improved, and 13 per cent showed little or no improvement in bladder symptoms. Of this later group of cases 83 per cent had had their infection more than two years before operation.

TREATMENT

The generally accepted method of treatment of tuberculosis of the kidney is complete removal of the diseased organ as soon as the diagnosis is made. Keys states that the only contra-indication to nephrectomy is the existence of tuberculous

lesions elsewhere in the body of such gravity as to prohibit the operation. Such prohibiting lesions may for example exist in the lungs and be of such severity as to prohibit any capital operation; or the opposite kidneys may be so gravely affected as not to be capable of supporting life.

Israel in 1911 collected statistics of 1,023 nephrectomies for kidney tuberculosis, which showed that 75 per cent were permanently cured. Rovsing reports 145 nephrectomies for renal tuberculosis with 7 deaths, or a mortality of 4.8 per cent.

In cases which are not suitable for operation, *i. e.*, cases with advanced lung involvement or where the opposite kidney is already infected or functionally incapacitated from other pathologic conditions and also in those cases which refuse operation, we can only resort to medicinal and palliative methods of treatment. Among these are included rest, hygienic surroundings, nutritious diet, and the internal administration of urotropin, tonics and narcotics to relieve pain. Tuberculin has given disappointing results and I believe we should not waste time in its administration. It may be of some value in those cases where operation is contra-indicated. All persons having a tubercular kidney, even after removal of the diseased organ, should be considered as subjects of latent tuberculosis and kept under supervision and medical treatment.

In some of these cases a complicating pyonephrosis may give rise to severe toxic symptoms, necessitating a nephrotomy with drainage, which may result in a permanent fistula.

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ANTI-TYPHOID VACCINATION*

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The history of typhoid prophylactic vaccination covers only a few years, and to most of you is more or less familiar. I will, therefore, present only a few of the more important steps in the development of this most effective weapon of defense against one of the diseases of mankind, and one which has always been the special scourge of armies in camp and field.

The history of typhoid prophylactic, can roughly be divided into two stages; the first period, the early experimental work of Pfeiffer and Kolle, and that of Wright and the Boer War and the use of it by the Germans in the Hereros campaign in South Africa.

The second period is the present one, beginning with the work of W. B. Leishman, and continuing to the present, when all of the principal armies are using it with very little variation in technique.

France, by a circular March 6, 1913, rather tardily fell into line with her army in Morocco, Algiers and Tunis.

In 1896, Pfeiffer and Kolle reported the result of anti-typhoid vaccination in two men in whom, by carefully controlled investigation, it was shown that the same anti-bodies were found in the body following these inoculations, as were found following an attack of typhoid, and which suggested that this method might be of use in limiting the spread of epidemics of typhoid.

The principal credit for placing anti-typhoid vaccination upon a practical working basis, is due to Sir A. E. Wright, who at that time was connected with the British Army Medical Corps, and who in 1898, vaccinated about 4,000 men of the British Indian Army, and in 1899 to 1902, furnished 400,000 doses to the English troops in the Boer War. While this work was convincing, it fell somewhat short of expectations, due to various factors. Poor records were kept; in a large number of cases there was confusion of the records regarding typhoid and smallpox vaccinations. A still more illuminating explanation of the partial failure has been given by Sir William B. Leishman of the Royal Army Medical Corps, who was associated with Wright at Netley, and

to whom fell the duty of preparing the vaccine. He now believes, after further study, that the variation in results was due to the method of sterilizing the cultures. He believes, and has demonstrated, that the degree of heat used destroyed, to a large extent, the protective properties of the vaccine.

In 19,000 vaccinated men in the South African campaign in which fairly accurate records were kept, it was shown that the incidence of typhoid was one-half, and the death rate of these was diminished about two-thirds that of the unprotected. This was encouraging.

In the latter part of 1902 considerable opposition developed in the English service, and the inoculations were discontinued, but were reintroduced in 1904, upon the recommendation of a commission appointed to investigate the subject.

Profiting by previous experience and by the appointment of special officers who kept careful records and made accurate diagnoses by laboratory methods, the results were such as to convince even the most skeptical.

Not wishing to inflict statistics upon you, I will only state that among 5,473 inoculated men there were 31 cases of typhoid, with 2 deaths. Among 6,610 uninoculated there were 187 cases of typhoid, with 26 deaths. These results approach those of the U. S. Army in the maneuver division at San Antonio in the Summer of 1911 of which more later.

Following the Boer War, the next extensive trial of anti-typhoid vaccine was in the German Colonial Army in Southwest Africa during the Hereros' campaign from 1904 to 1907.

In 1904, the number of cases of typhoid among the German troops in South Africa was 226, notwithstanding that they had the accumulated experience of our Spanish-American War to aid them in carrying out extensive general sanitary measures for the prevention of this disease. The condition was becoming alarming. The military authorities laid the matter before Prof. R. Koch, who advised prophylactic inoculations.

As a result of this policy the cases fell from 226 in 1904, to 43 in 1907, under the same general sanitary conditions. Among the total force of 16,496 men in the expedition, there occurred 1,277 cases of typhoid, and a study of the distribution shows the undeniable advantages of the prophylactic. The proportion of cases occurring

*Read before the joint meeting of the Morgan and Cass County (Ill.) Medical Societies, August 14, 1913.

in the vaccinated and unvaccinated was as 5.09 is to 9.84.

Without figures, one may briefly summarize the work of the Germans by saying there was a reduction among the vaccinated of one-half the number of cases; a much higher percentage of light attacks; and a much lower percentage of fatal cases.

The Germans have made it a practice from the start, of giving three doses before calling the immunization complete. This being the method universally used at present.

Much of the opposition in England following the use of the vaccine during the Boer War was the exaggerated idea of the importance of the so-called *negative phase*, which was promulgated by Wright. He believed that immediately following an injection, the body lost some of its protective properties, and became more susceptible to the disease. We now know that with the present doses, this does not occur, but that protective bodies begin to be formed at once.

From the first, our work with the prophylactic, has been done with the utmost thoroughness, in respect to the preparation of vaccine, administration and keeping of records.

During the Summer of 1908, Captain (now Major) F. F. Russell, Medical Corps, U. S. Army, was sent to Europe to make a study of the methods in use in England and Germany for the prevention and stamping out of typhoid fever epidemics, both in the army and civil population. Upon his return to the United States, a special board was called to consider the subject.

Upon this board were the following eminent men:

Drs. V. C. Vaughn, W. T. Councilman, J. H. Musser, Alexander Lambert, Simon Flexner, W. S. Thayer and F. F. Russell.

All of these, with the exception of Major Russell, being members of the distinguished list of the Medical Reserve Corps, and are known to most of you.

This distinguished board met in Washington and, after a thorough investigation, arrived at the following conclusions:

1. The board is convinced that the practice of anti-typhoid vaccination is both useful and harmless, and that it offers a practicable means of diminishing the amount of typhoid in the army, both in peace and war.

2. It finds that the experience to date with anti-typhoid vaccination justifies it in recommending the introduction of the practice in the regular and volunteer armies in time of war.

3. It recommends the immediate introduction of the practice of voluntary vaccination against typhoid in the Hospital Corps, Army Nurse Corps, and in any expedition of troops from the regular army which is ordered to take the field for active operations, and further, that an opportunity be given for volunteers from the army as a whole, to be protected by vaccination against typhoid.

Following this report the prophylactic was administered to such men as wished the protection afforded by the vaccine. The careful records kept showed such uniformly excellent results, with no untoward effects in any case, that when the movement of troops began to Texas in the spring of 1911, it was ordered that all men who were sent to the maneuvers, who had not been protected would be vaccinated at once.

This was later followed by the following General Order No. 76, War Department, June 9, 1911. Extract: 2. Hereafter, the typhoid prophylactic will be administered as soon as practicable, after enlistment, and before the men are sent away from depots or posts at which they are enlisted, to all recruits except those over 35 years of age.

In September, 1911, the order making the prophylactic compulsory for the entire army came out in General Order No. 134. This ordered that all men under 45 years of age who have not been vaccinated against typhoid, or have not had a well developed case of typhoid be given the treatment at once. Men who have not had the prophylactic within two years are to be given the treatment.

Since this order was issued, all men in the service have had the prophylactic administered, and all incoming recruits are given it as soon as sworn in.

Our army then, as a whole is immunized to typhoid. Let us see what has been the result.

During the period of March 10 to July 10, 1911, the maneuver division at San Antonio, Texas, with a mean strength of 12,801 men, all treated with vaccine, was encamped near the city, a large part of the time in a profanity provoking mud, partially surrounded by the city over which

the military had no control, and in which typhoid at that time was prevalent, there being 49 cases in the city with 19 deaths during this period of four months. Only two cases of typhoid developed in the division, one in a private of the Hospital Corps, who had received only two of the required three doses, and the other in a civilian employe, who had not received the prophylactic. The case of the partially protected man was so mild that the diagnosis was made only by blood culture. (All cases of fever of over 48 hours' duration were cultured.)

Contrast with this the division of troops encamped at Jacksonville, Fla., in 1898, of about the same strength and under about the same conditions and for approximately the same time. This division had 2,693 cases of typhoid with 248 deaths. This was about the average incidence in the other camps at this time.

That this result was not entirely due to improved general sanitation is proved by a study of the typhoid rate in the Philippines in 1910 before immunization was in effect, and in 1911 after a large part of the American troops had been immunized.

In 1910 there were 31 cases of typhoid among the American troops, with two deaths, and 13 among the Philippine scouts with 1 death. This prior to immunization. In 1911, there were 12 cases among the partially immunized Americans and 12 among the non-immunized scouts. The number of men in the American troops and scouts was about the same both years. The incidence among the partly immunized Americans was less than half, while the rate among the non-immunized scouts remained about the same. The general sanitation was the same both years. These results must be considered absolutely convincing that anti-typhoid prophylactic does prevent typhoid to a large extent.

That the immunity is not absolute we know from the fact that in 1911 among 80,000 vaccinated men, there were 12 cases of typhoid with one death, and in 1910 among 15,000 vaccinated men there were six cases with no deaths. These diagnoses were clinical in many cases, so probably some of them were para-typhoid instead of typhoid. During the last year it has been demonstrated that para-typhoid is more common than usually thought. In India, Col. Firth reports 104 cases of para-typhoid to 170 cases of typhoid, all

based upon laboratory diagnosis. Anti-typhoid vaccine does not protect against para-typhoid. Medical officers are under instructions from the war department to endeavor in all cases to differentiate the two diseases by laboratory methods, that the records be more accurate.

A brief outline of the method of preparation and administration will be of interest. The culture of typhoid organism used was isolated from the spleen of a fatal case several years ago. It is not necessary to use a virulent culture, the one in use is considered avirulent, but one which produces large quantities of anti-bodies. It is grown for 18-20 hours upon uniform sized agar tubes and the growth of each washed off in about 2 cc. of physiologic salt solution. This emulsion is well shaken to break up clumps, and a sample taken for counting.

The emulsion is then sealed in 50 cc. tubes and heated at 60° C. for one hour. Cultures are made by aerobic and anaerobic methods, and samples are injected into a mouse and a guinea pig to insure against the unfortunate repetition of the experience of tetanus in India and plague in Manila.

The vaccine is then diluted according to the count, so that one cc. contains 1,000,000,000 bacteria. Before sealing in the ampoules, 0.25 per cent tri-eresol is added as a matter of safety.

The vaccine keeps well, probably one to two years, and freezing does not impair its efficiency to any great extent.

The prophylactic is administered subcutaneously in the region of the insertion of the deltoid after the skin has been sterilized by tincture of iodine, preferably about four o'clock in the afternoon, as the most severe reaction will be over by the next morning, and the individual thereby sleeps through the greatest discomfort.

The first dose for an adult is 500,000,000, $\frac{1}{2}$ cc. of our present dilution. The second dose is given in ten days, and the third ten days later, these last two doses numbering 1,000,000,000 each. The period of immunization thus covers, from the first to the last dose, 20 days.

There are, as a rule, no symptoms until a few hours have passed, when both a local and general reaction may appear. The local reaction is manifested by a red indurated and tender area 1-2 inches in diameter at the site of inoculation, and slight axillary adenitis which never suppurates.

This subsides in 36 to 48 hours, and is insignificant in severity.

The general reaction is often mild or absent. The general reaction is usually somewhat like the beginning of an acute cold, headache, malaise and chills, often repeated four or five times during 24 hours. More severe cases show nausea, vomiting, occasionally diarrhea, and infrequently herpes labialis.

The reactions are classified by Russell as follows: A moderate reaction being one showing a temperature from 101 to 103; over 103 being classed as severe:

	No. of Dose. doses.	Reaction absent, per cent.	Reaction mild, per cent.	Reaction moderate, per cent.	Reaction severe, per cent.
1st	45,680	68.2	28.9	2.4	.3
2nd	44,320	71.3	25.7	2.6	.2
3rd	38,902	78.	20.3	1.5	.1

At Jefferson Barracks, a recruit depot, we have completed 11,007 cases of prophylactic administrations. This means 33,021 injections. Of these cases, 87 were admitted to hospital as having a reaction sufficiently severe to excuse them from work. As all recruits are vaccinated for smallpox at the time of enlistment, a large number of the admissions were suffering both from vaccinia and typhoid prophylactic. Again as prevention of epidemics is an important part of our work, infectious diseases are imported continuously and are with us practically always. A great number of these 87 admissions were admitted on account of the temperature rise upon suspicion of measles and other infectious diseases.

It is a conservative estimate that 50 per cent of the admissions which were diagnosed as reaction following typhoid, would not have been admitted if the patient had not had vaccinia, or had not been taken in on account of the suspicion of measles or other infectious disease.

We have seen no serious result in any of the 33,021 doses, and so far I have heard of only one, a case of neuritis in an officer, probably due to accidentally striking a nerve with the needle.

Occasionally a man the day after the prophylactic becomes weak and faint while at drill and has to fall out, but usually in a few hours is able to go on with his work, not necessitating admission to hospital, or any treatment.

Children bear the prophylactic well. We have administered it to children as young as 3 years. We encourage all families upon the post to have their children protected, and, to a great extent,

they avail themselves of the opportunity. Children do not react so severely as adults. Usually the child is cautioned not to go out in the sun, otherwise it continues its play as if nothing had happened. I have never yet seen a child react even moderately.

The dose for a child is in proportion to its weight, the basis being a man of 150 pounds. Better a little more than less the exact proportion.

As the child is immunized in proportion to its weight, and its weight increases rapidly, it is advisable to repeat the immunization oftener than in adults.

How long does the immunization last? At present we do not know. There is no laboratory test to tell us and only long continued observation will determine. It appears to be at least 2 years, probably more. For our purpose in the army, once each enlistment was considered sufficient, when the enlistment period was 3 years, but under the present 7-year system, it will probably have to be repeated before the next enlistment. At present no provision is made for this, but, no doubt, will be before the men who are now serving under the 7-year enlistment period have served the 3 years at present provisionally considered the period of immunization, unless it be found that the immunity lasts longer than anticipated.

In regard to the treatment of typhoid by means of bacterins, at present there is very little literature upon the subject, and it seems the consensus of opinion is that the results have not been very satisfactory. It is hoped that future work may prove more productive of results.

The experience of the army in this work is so slight as to be negligible for the simple reason that there has been no epidemics since the vaccine has been used and the few isolated instances where it has been used offers no information of value as yet.

Typhoid fever is rated fourth on mortality tables; it is estimated to cause an economic loss of no less than \$100,000,000 annually in the United States. In 1908, one man in every 200 contracted typhoid, and the death toll in the United States was 35,000.

Every person is at some time or other exposed to typhoid, and it is the duty of the medical practitioners of the country to see that anti-typhoid vaccination through a campaign of education be-

comes known and used in every community.

The trail has been blazed by the armies of the leading nations of the world, and if zealously followed, it will show a result in typhoid prevention only second to the results of smallpox vaccination.

INTRODUCTORY ADDRESS.*

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CHICAGO.

The present age is notable for many things. Not the least among them is the growth of the community spirit, the community conscience. Heretofore individualism has held supreme sway. The rule of guidance was, every man for himself and "the devil tak the hindmost." With the steady development of popular government, the idea has grown as never before that one's neighbor has interests that are identical with our interests. The union of these interests works to the advantage of both. It is the discovery of this fact that has stimulated the remarkable growth in these latter days of trusts, corporations, labor unions, business amalgamations of all sorts, united charities, religious associations, professional, literary, artistic and scientific societies. So rapid and recent has been the growth of this idea that many men do not yet realize it and as a result of their old education are struggling to use these new combinations and forces for their own individual profit. This is the reason for the unrest and troubles of the industrial world, of which we are observing so much nowadays. Men are slowly but surely being educated in this transition period that humanity is a unit, that men are the same everywhere in their hopes and desires, and that the mere exploitation of one's fellow creatures for the sake of personal gain, is not only an evidence of a primitive state of mental development but works ultimately to the detriment of the greedy one. That we are our brother's keeper is the great lesson that is being hammered into the human mind this twentieth century. It is the latest step in the inevitable march of the human race from mere animalistic egoism to divine altruism.

In this magnificent movement our profession is taking a glorious part, as shown in a thousand

ways, one of which is the gathering together this morning here in Chicago, of psychologists and students of sociology from all parts of the country. Your deliberations and conclusions involve the very existence of our nation and the happiness of its citizens. Every means put forth to stay mental deterioration on the one hand and to enhance mental growth on the other strengthens the very foundations of our civilization. Pre-eminently do you exemplify the truth of the statement that "the proper study of man is man." *Mens sana in corpore sano* means, if it means anything, that he who makes the mind the subject of his investigations must be a deep thinker and a broad student of affairs. Mind being at the apex of human development, the study of mental phenomena means the study of the whole of mankind in all of its relations to the inner and outer world. What a magnificent program is thus laid out before you! How entrancing and stimulating the thoughts and suggestions it awakens! How deep into our national life and how far reaching into our future welfare, will its conclusions extend!

Note how a few of the greatest thinkers regard society and civilization. Then when you have done this place side by side the subject matter of this body's deliberations and its extreme importance with the average indifference and flippancy with which legislators, prominent men of affairs, and the populace generally regard it. Surely there is a crying need for the education of the people along these lines and all the simplicity and publicity that can be given to the facts upon which your discussions are to be based will redound to the benefit of all. Herbert Spencer regarded *society* as an organism, having a sustaining system analogous to the alimentary apparatus, a distributing system analogous to the circulatory, and a regulating system analogous to the nervous. Analogy, however, scarcely indicates the close intimacy between the regulating system of society and the human nervous apparatus. The origin of society is in an idea, whether that idea be elementary or elaborate, instinctive or rational. As "man is nothing without his mind," to use the words of Bain, society, whose regulating system constitutes its mind, could not exist without the latter. A mere aggregation of animals does not constitute a society any more than does an aggregation of trees. The term

*Read at a meeting of alienists and neurologists, held under the auspices of the Chicago Medical Society, June 23-25, 1913.

society and the study of society in the form of sociology are all but synonymous with the term psychology and the closest examination of the activities of the human nervous system.

Fiske has placed psychology at the head of all the sciences. It is the science of sciences, because the validity of our knowledge of all the sciences depends upon the validity of our knowledge of the phenomena of mind.

In the words of Giddings, "it appears that sociologic theories should start from psychologic premises, but that the correlation of all processes with the character of the physical environment should be recognized throughout."

As Fiske says, quoting from Buckle's *History of Civilization*, "The progress of mankind depends on the success with which the laws of phenomena are investigated and on the extent to which a knowledge of those laws is diffused"; or as Lewes puts it, "the evolutions of Humanity correspond with the evolutions of Thought," a statement substantially concurred in by Mill, Spencer and Comte.

"There can be no doubt," says Buckle, "that a people are not really advancing, if, on the one hand, their increasing ability is accompanied by increasing vice, or if on the other hand, while they are becoming more virtuous they likewise become more ignorant. This double movement, moral and intellectual, is essential to the very idea of civilization and includes the entire theory of mental progress." The study of mental phenomena and of the nation's mental state, which you are about to take up the next few days, is a study of civilization and of our nation's continuance. Material progress, of which we are inclined as Americans to be so boastful, is of minor importance as compared with the subject of your program. A nation's life is dependent upon its men, not upon its trade and manufactures; and men are what they are by reason of their mental faculties.

There are three distinct elements of possible danger to our national strength, namely, *undesirable and unassimilable immigration, increase of alcoholism, and the spread of venereal diseases*. It is a fatuous and foolish optimism that fixes its gaze upon the vast natural resources of our land and declares that these growing dangers can never overtake the nation's welfare. Statistics as well as general observation reveal only too glaringly

the increase of degeneracy, mental instability, nervous diseases and insanity. The increased competition and struggle for existence, the growing spirit of self-indulgence and love of pleasure, the recent rapid accumulation of wealth and luxury, the spread of means for physical comfort and stimulation, and the relative neglect of self-restraint, self-discipline, moral exaltation and delight in the more intellectual pursuits are all too obvious. The inevitable result of such causes, when unchecked, are well known to the students of the mind and have been more than once illustrated in the history of civilization.

Take for instance the question of immigration from Europe alone, to say nothing of our great negro problem in the south and the so-called "yellow peril" in the west. Up to the time of the Civil War the immigration was from the north of Europe and from among people whose racial traits and customs were not dissimilar to our own. At that time not more than 7,300,000 of these desirable colonists had come to our shores. They had come to settle and make their homes with us. They quickly amalgamated with their environment, adopted the ways of the nation, and soon experienced in their new home the feelings of genuine patriotism. After the Civil War there was a sudden and remarkable increase in immigration. In 1907 it reached its climax when in one month 128,000 individuals came from Europe, equal to the entire number that had arrived between the years 1820 and 1830. To assimilate such a vast horde must of itself be a gigantic task; but the assimilation is rendered all the more difficult by reason of the character of the immigration. These people have come from the lower strata of society in southern and eastern Europe. Poor and oppressed at home and stimulated by the glowing promises of the over-zealous steamship agents amongst them, they came to this land not merely to escape the poverty and distress of their own but to reap the golden harvest which they were told this Eldorado had in store for them. When they arrived, their last dollar spent and their families left behind to await their return, they crowded the slums of our great cities, dejected, ignorant, hopeless, because the golden promises of the agents did not materialize and they were devoid of means to return to their families. In 1907, 1,285,349 such immigrants more or less poured down upon our Atlan-

tic seaboard. Sixty per cent of the 10,000,000 representatives of these races of southern and eastern Europe that have come to our land in the last 20 years have settled in the four states, New York, Pennsylvania, Illinois and Massachusetts, chiefly the large cities. In the old colonizing immigration less than two per cent were illiterate; in this later immigration more than one-third of the individuals over 14 years of age could not read or write, and the purpose of their coming here was not such as to induce them to learn our language, our ways, or our form of government. One need not think twice, especially you alienists and neurologists to realize what such an influx means to the physical and mental health of those who constitute this immigrant horde and of those among whom they are packed in our great urban tenement districts. Ignorance, poverty, discomfort and disappointment result as a natural consequence in dissipation, filth, immorality, and disease. Crime, drunkenness and syphilis are bound to increase under such conditions. Illegitimacy, disastrous heredity, and degeneracy constitute the inevitable fruitage. Bodies are diseased, minds are stunted, and insanity increases. To say nothing of the enormous burden upon the body politic in the case of this growing mass of delinquents, what must be the state of the foundations of a nation resting on such a growing proletariat?

I am aware that your fatuous and foolish optimist again tries to brush away these alarming facts by stating that vice and insanity are not on the actual increase but are merely keeping pace with the increase of population. In this however he flies in the face of all reliable statistics and the opinions of all authorities upon nervous and mental disease.

In his monograph upon General Paresis, to take one disease alone, Kraepelin says "a certain increase of paresis may be admitted as highly probable. The experience, especially of larger cities, proves this. There the figures are so large and so continually growing, as for instance the rate of Berlin and Munich where the male paretics amount to 36 per cent, and in the Charité at Berlin where they reach 45 per cent, that the errors just mentioned are of little consequence."

Nonne, a high authority upon syphilis, while deploring the absence of reliable statistics upon the subject states that "the great increase of this literature in the last decade would cause one to

think syphilis to be of more frequent occurrence than formerly," and that "from the standpoint of reason we can easily comprehend how syphilis might be more prevalent at the present time than formerly."

The same may be said of the use of alcoholic beverages though lately there seems to have been an awakening of the people to the dangers of drink in our complicated civilization. Neurasthenia, a far less serious malady to be sure and yet one that interferes with the normal mentalization of the individual to no small extent, is increasing. In the words of Oppenheim, "neurasthenia is a very common disease in our time. It affects chiefly those who live in large towns. Although it has possibly been in existence for all time, and has for long been known under the term "nervousness," there is no doubt that it has gained ground enormously within recent years with the ever-growing hurry and restlessness of social life and the enormously increased demands made by the struggle for existence and the craving for pleasure."

Lest there may be any doubt still lurking in your minds as to the increase of insanity, let me quote a paragraph or two from the last *Institution Quarterly*, the official organ of the Public Charity Service of Illinois, one of the states into which this late undesirable immigration has been pouring.

"The capacity of our hospitals is now fully exhausted. . . . The next annual increase in the population of these hospitals during the biennial period of 1913 and 1915 is estimated at 527. This figure is based upon the percentage of increase which has prevailed for a number of years in Illinois and other states. During the twelve months succeeding July 1, 1913, the state must make accommodations for 527 new patients in excess of all discharges and deaths, at \$600.00 per bed. This net gain means an expenditure of \$316,200.00 for housing, to say nothing of the increases necessary in power houses, laundries, quarters, attendants, repairs and the ordinary every-day maintenance. Considering these figures of net annual increase in patients, one is almost appalled at the future. The ideal hospital for insane is one of 1,500 or 1,600 capacity. At the rate of four hundred increase each year, Illinois can fill a new hospital every four years."

What an outlook for civilization, and in only

one state which, however, is like all other states in this respect! None but the unthinking and indifferent can fail of being aroused to a full sense of responsibility and duty as citizen in the presence of these gruesome facts.

Let us grant for a moment that our statistics in regard to the increase of insanity and nervous diseases are wrong or are erroneously interpreted. Let us admit that the increase is only apparent, corresponding merely with the increase of population or with the increased readiness of the people to seek hospital and asylum treatment. No one has ventured to say that these diseases are in the least on the decrease. So far as I know not one writer, however optimistic, has ever declared that, with our growing civilization, nervous maladies have been steadily declining. And yet it is not absolutely true that that is exactly what they ought to be doing to uphold our boast of being a highly civilized and progressive nation? Is it progress merely to stand still? Does it indicate scientific knowledge when that knowledge results in no real improvement? Nay, even the optimist must hang his head in shame today and admit that with all our greatness and enlightenment we have not yet caused any diminution of degeneracy, mental instability, insanity, and nervous affections. We are still in a stage of mere hopeful anticipation while we go on building hospitals to accommodate the ever-growing burden of mental defectives. This great sore in our national life is not seen, thus far, to be healing but is being merely segregated for the protection of the rest of the organism.

The origin of society and the progress of the human race toward civilization constitute the profoundest and most fascinating problems that the anthropologist has to deal with. The history of mankind, in its slow and laborious struggle from darkness to enlightenment, like a great minor symphony, resounds with the sad tones of frequent defeat and failure. Babylon, Persia, Egypt, Greece, Rome, once so powerful and exalted, where are they today? What elements of decay entered the lives and constitutions of the people who created and sustained during so many centuries those splendid nations? What was the inherent nature of the change that gradually but inevitably caused one nation after the other to steal away, like the Arab at night, into the silence of oblivion, leaving naught but a desert where,

"The hills,

Rock-ribbed, and ancient as the sun; the vales
Stretching in pensive quietness between;
The venerable woods; rivers that move
In majesty, and the complaining brooks,
That make the meadows green; and, poured
round all,

Old ocean's gray and melancholy waste,
Are but the solemn decorations all
Of the great tomb of man!"

Fluctuation is the law of the universe and perchance, for aught we know, the melancholy truth that the "ultimate tendency of civilization is toward barbarism" may be as true today as it seems to have been in the past. What then is the outlook for our American nation and civilization? Will some future historian, like Gibbon amid the ruins of Rome, picture to his astonished contemporaries the vanished glories of our noble and beloved country; or on the other hand, will he, like Livy, the proud citizen of Rome, reflect with a loving tenderness upon our past and present and portray them as the lower steps of the ladder whereon the nation has climbed to the higher and more brilliant civilization of his day? The question is vital to the American who truly loves his country and he inquires earnestly of history and of science to tell of the signs, if there be any, that our nation is falling or rising. He asks anxiously if there is not something, like the steam-gauge upon an engine, that can positively be depended upon, if closely watched, to inform us whether the pressure of civilization is moving above or below the danger point. It would seem that science is ready to offer such an index as it has never been able to offer before and that this index is the state of the nervous system of its people in all of its functions. In other words, mentalization, the culminating function of that system, being the basis of civilization, it follows that a direct parallelism obtains between the nervous organization of a people and the status of that people's civilization and stability as a nation. This fact which has been recognized only of late in all of its wide bearings is the first conclusion I would emphasize before you this morning. The second is that racial influences, including the two subsidiary questions of alcoholism and venereal diseases are more potent than we are wont to imagine in deteriorating the nervous organization of a nation and so in bringing about

the downfall of that nation. On the neurologic side, here in America as elsewhere, we can see the slow, steady, insidious advance of nervous deterioration; on the sociologic side the evidences of the same progressive decline are all but too glaringly obvious. The picture is threatening and full of warning. The redeeming feature whereby we may hope to save our nation from going the way of Egypt, Rome, and Greece is that we know more than they ever dreamed of about the human nervous system and its relationship to intoxication and sensuality on the one hand and to racial integrity and national stability on the other. This knowledge, acquired through neurology, gives us a power which the ancients were wholly in want of and which if rightly wielded will save our country. I congratulate you that you are the eustodians of this knowledge and I rejoice that such meetings as these are from time to time held to arouse the people and their representatives in government not only to the dangers to our national existence, but to the nature of those dangers and the means of nullifying them. May your deliberations and conclusions be wise, emphatic, and widely published, for they are upon a theme that is most vital to every citizen of these United States.

DEGENERATION COMMON TO ALCOHOLISM AND INEBRIETY*

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A few years ago, any attempt to present the scientific study of the degenerations common to alcoholics and inebriates, would have been regarded as empirical. Forty years ago, the first papers I read on the disease of inebriety before medical societies were tolerated but met with a silent contempt and skepticism. Most of the profession from the leaders down considered all writings of this character extravagant, foolish and unscientific.

No one seemed to regard spirit and drug addictions as neuroses or diseases but on the contrary as mere moral lapses and weaknesses of mind and body, which required clerical and other than medical help. The fact that from Hippocrates down

many eminent men had written and described the drink neuroses as a disease and urged its study and physical treatment was practically unknown.

Scientific studies and clinical observations brought striking confirmation of the disease theory and indicated that the phenomena of the drink and drug neuroses could not be explained from any other point of view.

Modern laboratory researches of the effects of alcohol on the cell and tissue brought out a wealth of evidence concerning the degenerations and erosive action of this drug and yet physicians showed timidity and hesitation in the presentation of such facts, because of their conflict with the theories and prejudices of the past.

Why the disease of inebriety has not received the same consideration and study as epidemics and other widespread maladies and why we should not regard it with the same scientific scrutiny as any other phenomena of disease is unexplainable.

The only possible reason is that alcohol as a beverage and as a drug is still invested with traditions, superstitions and theories, also with commercial interests that center about its manufacture and sale. These are practically prohibitive to critical inquiry and revolutionary studies.

The object of this paper is to group and compare many of the general facts that are now recognized as outlines of a new territory of medical researches and practice.

The alcoholic and the inebriate are two distinct types of neurotics. The inebriate is a psychoneurotic who drinks at intervals and has distinct free periods of total abstinence during which he appears healthy and normal and acts sanely. The return of the drink paroxysm is marked by complex manias, delirium, dementias and melancholias. The drink attack may come on after regular or irregular intervals, and resembles epilepsy in its sudden, convulsive manifestations and terminations.

The alcoholic is a continuous drinker of wine, beer, spirits and other forms of alcohol, as luxuries, beverages or medicines, in small quantities daily. He is literally a toxemic from poisons introduced into the body from without and poisons formed by chemical combination within, producing most complex disturbances and degenerations.

The early symptoms are always obscure and often limited to an exalted ego in which the person revels in the thought of his superior ability

*Read at a meeting of Alienists and Neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.

and conviction that spirits have no injurious effect and that his will power is amply able to control its use.

After a time disturbances of nutrition and circulation appear, vitality is lowered and efficiency diminished, then comes rheumatism, neuritis, and disturbances of the heart, all of which are attributed to over-work, nerve exhaustion and other causes.

Kraepelin of Heidelberg some years ago made an exhaustive study of the effects of alcohol in small doses on healthy persons. These studies gave the first distinct data and explanation of the obscure early symptoms noted in alcoholics. He found that from one to two drams of alcohol in a healthy person lowered the sensory activity to a measurable degree and that alcohol was never a stimulant but always an anesthetic, depressant and cumulative in its action. Other studies in this country and Europe have not only confirmed this but brought out a wealth of facts opposed to all the teachings of the past.

Kraepelin also showed the effects of alcohol on sight, diminishing its capacity as well as obscuring the color sense, also on hearing, and proved that it was lessened; that taste, touch and smell were all more or less impaired. Impressions on the brain through the senses were imperfect and could not be correlated because of the impaired and weakened functions.

Clinical observations on patients who come to hospitals and sanatoria show diminished sensory, motor and mental activity that can be measured and stated in exact terms. This condition is practically a palsy, which increases with the continuous use of spirits. The conclusion was that alcohol, even in small doses, was an anesthetic, either for a longer or shorter period. Some illustrations bring out this fact.

A noted astronomer declared that every time he took a glass of wine or beer his work for a few hours after was full of errors and had to be repeated. He had to give up banquets and dinners at which wine was served, and announced that he had found from personal experience that all use of spirits was injurious.

In one of the large observatories in this country, there is a specific rule that assistants and observers must abstain from spirits, coffee, tea and tobacco. This is a recognition of the action

of alcohol and its injurious effects on all work requiring accuracy of the senses and reason.

In the musical world Sousa's band and other orchestras illustrate this same fact in their experience. No member is permitted to drink spirits or even wine or beer and is required to abstain from tobacco and be abstemious in the use of coffee and tea. The reason given is that these drugs impair hearing and the accuracy of the sense of harmony and melody, as well as lower the muscular control of the fingers and lips.

Familiar examples are becoming more and more prominent in the management of railroads, and the increasing insistency of all officials that operators in the train service be total abstainers. Thus everywhere in practical life the anesthesia of alcohol is recognized and becomes more and more apparent in the mistakes and errors that are traceable to its use. Nutrient degenerations constitute a more or less prominent system in alcoholics.

Alcohol as a dehydrator interferes with protoplasm, destroys its integrity, and deranges the circulation. Vasomotor palsies noted in the face are common. Derangements of the kidneys and digestion with diarrhea, constipation, fermentations, accumulations of gas are also common. With this there is distended stomach, weakened heart's action, high tensioned arteries, which can be noted in the early stages. All these symptoms steadily increase and are marked by low vitality, nervousness and symptoms of fatigue that are unusual. Explanations of over-work, and neurasthenia are given. Then comes bacterial invasions with local inflammations, and traumatism which make a profound impression on the body. Recovery from wounds is slow and so-called neuralgic pains with great debility follow. At this stage drug taking is very likely to develop, both directly and indirectly from thoughtless prescriptions of the physician. In reality, it is toxemias within the body, increased by the toxic poisons from without that become active and predisposing causes of profound degenerations, both local and general.

The inebriate presents many of the same symptoms, only they are intensified and develop into a convulsive obsession for spirits, up to the point of stupor. This morbid impulse to secure narcotic effects is peculiar to alcohol and some drugs. After a time it dies away, then various local in-

inflammations appear, such as gastritis, local irritations of the kidneys marked by excretions of albumin and salts, heart feebleness and muscular fatigue. These symptoms pass away, and a period of abstinence follows, in which there seems to be a full return to previous health and vigor. Then all unexpectedly some complex symptoms appear, which are followed by another drink paroxysm.

Sometimes this period is prolonged for several days and weeks in which the person drinks to stupor every day, then suddenly the end comes, and with it melancholia, remorse and profound conviction that he will never drink again. Often local inflammations begin and run a mild course. In this there is distinct physical and mental degeneration. The reason is faulty in some ways, and clear in others. Physical work is done automatically and with a returning vigor many symptoms disappear or are suppressed, so as not to attract any attention.

The drink convulsion is most complex and confusing, noted by exhaustion and mental derangement. The free interval may not exhibit any of these symptoms. The person may do good work along accustomed lines. Many persons realize during this free interval, signs of debility and exhaustion, others do not, but claim to be perfectly well, and show a paretic exaltation and confidence in their perfect health that is suspicious.

The inebriate is potentially a maniac of the epileptoid class, and the paroxysms, while due to a great variety of unknown causes are very largely influenced by toxemias and faults that are preventable. The drink paroxysms are often followed by most serious diseases of the lungs, kidneys, liver and heart. Consumption and pneumonia are more or less common in inebriates. When the drink craze subsides pneumonia develops and is literally a pneumoparesis and paralysis of the branches of the pneumogastric nerves.

Consumption and inebriety are very closely related. The subsidence of one is followed by the development of the other. In the alcoholic the continuous use of spirits favors the erosion of the lung tissue and diminishes the protective power of the phagocytes. The breaking down of the lungs in an alcoholic is always fatal. It is not so in the inebriate.

The convulsive use of spirits to the point of stupor for a time has some deterrent effect. When this stops, a fresh onset of the disease follows. There are a great many curious facts not yet studied, concerning the relation of inebriety and tuberculosis. In my book on "A Clinical Treatise on Inebriety,"* some of these facts are described.

Cirrhosis of the arteries and liver is another degeneration closely allied and associated with inebriety. During and after the paroxysm they are very prominent, but later they diminish in a large measure. There is a great wealth of facts along these lines that have not yet been studied.

The inebriate not infrequently develops paranoiac symptoms during the free interval. He displays fears and phobias; consults physicians, takes drugs and furnishes remarkable examples of recoveries supposed to be due to certain particular remedies.

It is at this time that medical men fall into many errors in both diagnosis and treatment. Not infrequently a young man will discover a new form of brain and nervous disease, and give some very exact studies, which he asserts are new to the literature. Almost every year something of this kind appears. Enthusiastic, credulous men will make confirmatory studies, but in the course of time they soon pass away.

Critical inquiry will show that many of these marvelous instances occur in inebriates, that the symptoms noted were only seen in the free interval and later the drink paroxysm and other symptoms overshadowed the first description, hence they disappeared.

Delirium tremens is not very common in inebriates, and when it occurs, it is so complicated with manias and delusions as to often be mistaken. In the alcoholic, delirium tremens is quite common. This is of a low degenerative type, with partial recoveries, but continuous degeneration.

The alcoholic may have stages of delirium, called tremens many times, and apparently recover. In the treatment most disastrous results have followed, particularly in inebriates. Here the deliriums and delusions are so prominent, that the thoughtless physician gives all his attention to producing sleep. The theory that if this can be accomplished a subsidence of the acute symptoms will follow has resulted in high mortality. Dif-

*Published by Harvey Publishing Company, Cincinnati, Ohio.

ferent forms of opium in such cases are particularly dangerous in depressing the heart below the point of recovery.

Hyoscyne seems to perpetuate delirium and derangement and fix it in some unknown way. Many cases are noted where hyoscyne was given, causing temporary sleep but leaving the brain clouded for months and years afterwards.

Other cases were noted where opium was given freely and recovery followed and an addiction to opium developed. Delirium tremens in both the alcoholic and the inebriate marks a stage of degeneration from which very serious troubles, both mental and physical begin. The inebriate may develop into an alcoholic and the former free intervals be obliterated, but an early dissolution and most pronounced disease is certain to follow.

The alcoholic sometimes becomes an inebriate and there is a suspicious after history of such a person that calls for the most careful study. Most complex forms of mental and nervous diseases always gather about persons of this class and the exact diagnosis is impossible, except in a very general way.

Cerebral hemorrhage is a common termination in such persons. Traumatism both physical and psychical assume great importance and usually end fatally. A very important fact that should not be overlooked, one that has a great influence on the after life, is the early use of spirits before and during the adolescent period. Persons who begin to drink about this time are much more seriously affected than those who begin later and this fact has a very pronounced influence in the prognosis. Heredity is a general factor, present in a very large number of persons. Notwithstanding the denials, statistical studies furnish unmistakable evidence that the largest number of inebriates and alcoholics, have an ancestral history of wine and beer drinking, particularly at the table.

Some of these patients continue to use spirits in small quantities up to middle life, then break out in the most complex neuroses and psychoses terminating fatally. Others develop some form of disease earlier and become invalids or hospital patients.

Every exact clinical study brings out this fact that the use of alcohol for any purpose and for any length of time, becomes an active and con-

tributing cause for degenerative diseases of a great variety. Of course, there are great differences in susceptibility. A sturdy German family may have beer on the table from infancy up and in early or middle life but the degenerations which follow may not be very prominent. There can be no question that vitality is diminished, mortality greater and susceptibility to disease marked. In an American family, where wine is given daily to the children, disease and mortality is very sharply defined and in early and middle life they are practically invalids of an incurable class.

The stupid error still prevails that the toxic action of alcohol is a transient condition and leaves no impression that is injurious on the organism, also that the continuous use of small quantities of spirits in no way impairs the health and normal activities of the body and mind. This is flatly contradicted by laboratory and clinical studies. Persons who have drunk to great excess, meaning that they have become stupid, delirious and otherwise intoxicated, then recover and assert with great positiveness that they are perfectly well, and have in no way been injured by it, are practically hypnotizing themselves with conclusions that cannot be verified.

Physical and psychical studies reveal shadows and defects both of the mentality and senses that are not always clear to themselves. Such persons have lost the fine appreciation of their relations to others, of their own conceptions and pride of character for truthfulness and honesty. If they continue to drink at long intervals, these shadows become more prominent. There is credulity, skepticism and degrees of faulty judgment. If a brain worker, his product is inferior, if a muse worker, he lacks much of his former efficiency.

A noted judge who at long intervals drinks at banquets to a marked degree, was found afterwards to be duller and harsher in his judgments and decisions. They were over-ruled. His former high standard of accuracy and clearness had dropped down.

A physician, who occasionally drinks to excess is becoming more and more careless of his diagnosis and treatment; he is less politic in his relations to his patients. His appearance is lacking in its former neatness and care. A business man who drinks at intervals shows faults in his judgment; he is more credulous or skeptical, less

cool and collected and complains of conditions that did not disturb him before. These are all facts which a close scrutiny will reveal.

The alcoholic particularly shows marks of decline both physical and mental. He may be able to keep up his work, but there are defects which are called weaknesses. He may have sudden phobias for wealth by any sort of method or political preferment, and want to lead in society and church, and show an ambition that is reckless of results. The inebriate may exhibit equally strange variations and paranoiac notions and changing conceptions of politics, religion, science and business. Frequently the extremists and radicals of new movements are inebriates whose attacks are concealed and not considered prominent by their friends.

In the commercial world these degenerations are recognized. Thus the mercantile agencies rate men low who drink continuously or at intervals. This is the result of experience, showing instability of character, conduct and control, and financial weakness that is growing. The bonding companies do the same thing in their refusals to take risks on inebriates or alcoholics. In all this there is an expression of experience, reduced to monetary values and without any sentiment or theory.

In institutions for the care of inebriates the same fact appears in many ways. On admission every patient presents palsies, defects and degenerations which are unexplainable except as due to the anesthesia of spirits.

The persons who are treated are of all others the most skeptical of the damage and injury which they are suffering from. They possess a delusive egoism that they are very little changed and can recover by appeals to the will. The inebriate, during the free interval, is often more clear as to his real condition but lacks control, is unstable and subject to suggestions, both physical and mental. The alcoholic is more profoundly wrecked in mind and body, but this is covered up with the same egoism and delusion.

The quack theories of producing an aversion to alcohol in a brief time and calling this a cure has done irreparable damage not only to patients but to the unthinking public. The inebriate will give up the use of alcohol on the subsidence of the paroxysm naturally, but this is not restoration. Any drugs given at this time,

or any sort of treatment is often credited for results which they did not produce, but on the contrary protracted and hindered the natural progress of the case towards restoration. The alcoholic, after profound elimination through the skin and bowels, finds relief in drugs of a narcotic character, but this is limited.

Sanatorium treatment, in which every person receives the same medicine at intervals and are treated alike, is empiric and very likely to be followed by results more serious than the original disease. The present empirical treatment has done a great deal to develop an army of incurables which became criminals, paupers and demented. It has also done a great deal to educate the public as to the possibility of physical help and restoration. It has revealed the fact, so long doubted, that both the alcoholic and inebriate are curable in the best sense of that word.

Everywhere it is apparent that the number of these drink and drug neurotics is increasing. Physicians are unable to meet the demand for help, hence hospital clinics and measures and means of every kind and description are sought and patronized with the hope of securing some results that will be practical.

In my experience of over forty years, I have had the satisfaction of noting a large number of persons permanently restored from physical treatment in sanatorium, also from home and office care. No percentage of recoveries can be given with any reasonable accuracy at present, but personal studies of individuals show that restoration and recovery ought to be the rule and not the exception and farther on, when these neuroses are recognized, they will be preventable and curable the same as any other diseases.

Finally the degenerations preceding and following the alcoholic and inebriate are not incidental or accidental or matters of chance, but follow a uniform positive growth and development. They begin at a certain point and go on in a regular order of progression, which can be studied and understood. No treatment limited to a few days or weeks gives any promise of permanency. Restoration may follow from the subsidence of the peculiar prominent symptoms, but other causes are active, which must be neutralized and broken up before any results will follow.

There is a home and office treatment, which should precede sanatorium care, and not infre-

quently physicians can use means and measures here most effectively. There are possibilities of home treatment that we do not realize at present, and they are equal possibilities in sanatorium and hospital treatment of permanent restoration and cure, beyond any present conceptions. The stupid theories of vice, depravity and moral weakness as explanations of why men drink has prevented any recognition or study, until these theories were obviously absurd. The man who drinks wine at the table, or beer and spirits, or the man who drinks at intervals to intoxication are all moral defectives, or if not that, are well within the range of rational control and free will, hence have a medical significance. The prevalence of such theories has built up an enormous army of neurotics, and degenerate psychosis, who only come for help and treatment when they have reached terminal stages and are in the incurable classes.

We sit around and observe this army being recruited, developed and trained and grown to the neurotic stage where their disabilities are so evident as not to be mistaken. Then we make great efforts to use medical means, always reserving the theory that it was vice at the beginning.

A large class of inebriates and alcoholics are beyond the province of practical, remedial measures, yet notwithstanding this fact, there are degrees of curability and examples that are startling in the possibilities that they reveal.

We ought to recognize the gravity, not only of the neuroses and toxemias in the later stages, but these conditions at the beginning and the possible means of prevention and correction. No physician in general practice can fail to realize the increasing neuroses and degenerations which follow from the use of spirits and no physician can fail to understand the actual condition both physical and mental which presents itself.

How to remedy it, how to advise, prescribe and plan means of restoration and cure is largely unknown, and yet every physician can do this and can find a field for practice with results as positive as from the treatment of any other disease.

Home and office treatment of this class will be a prominent feature of the practice of the future physician. I repeat the same plea and claims which I urged long ago, that this neglected army of degenerates should be recognized, studied and treated, above all theories and sen-

timents, and that they can be cured and restored to an extent not at present dreamed of.

The American Civic Society in a publication on the national fly campaign says:

"Cleanliness is the only solution for the fly problem."

The society is right. Cleanliness is not merely the only solution for the fly problem, but for the whole problem of public health.

Cleanliness is the keystone in the arch of life.

An interesting experiment for the purpose of creating immunity against tuberculosis is being tried in Pittsburgh under the direction of the Tuberculosis League of that city. Dr. William Charles White, Medical Director of the League, says it will probably take ten years before definite results of the work will be appreciated. The experiment is being conducted on the theory that much, if not all, tuberculous infection begins in childhood. In view of this fact, the League is aiming to supervise the growth of every baby born for the next ten years in the South Side district of Pittsburgh. The babies and their mothers will be taken in charge at the birth of the infant, and everything possible will be done to increase the resisting power of the child to disease and to make it thereby immune to tuberculous infection. The theory is that by fortifying the body in the earliest period of a child's life, the infant will, in most cases, become immune to the disease with which heredity and environment may threaten it.

TUBERCULOSIS

Undermines the family,
Brings trouble and sorrow,
Empties the family purse,
Reduces many to poverty,
Comes to the careless,
Unfits for life's work,
Limits life to months,
Orphans many little children,
Scoffs at drugs,
Isolates from friends,
Scores 4,000 deaths each year in Chicago.

Six weeks ago the Health Department gave as full publicity as possible to the fact that it was prepared to give free vaccination against typhoid fever. The public press boosted vigorously and apparently some interest was aroused.

Result: Only two hundred people took advantage of our offer.

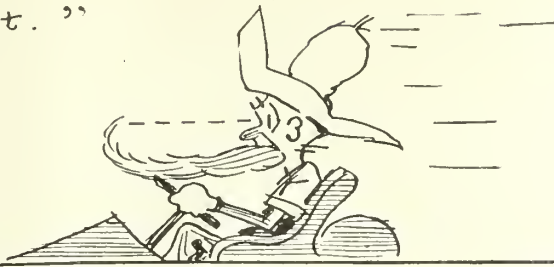
We are not discouraged. The public will learn in time.

This week we are sending to every hospital and similar institution in the city a circular letter urging that all nurses and attendants take the vaccination, we offering to do the work.

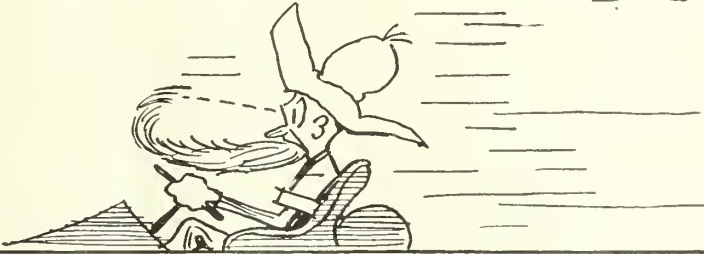
Later it will be interesting to record the institutions that have shown a disposition to move actively for the protection of their nurses and attendants.—From *Bulletin Chicago Dept. of Health*.

UNCLE SI'S HOME GROWN SPEEDOMETER

"10 mile per hour,
jest a-bout."



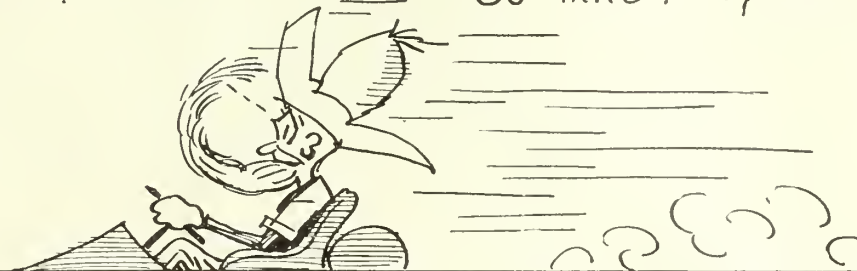
15 mile, I reckon.



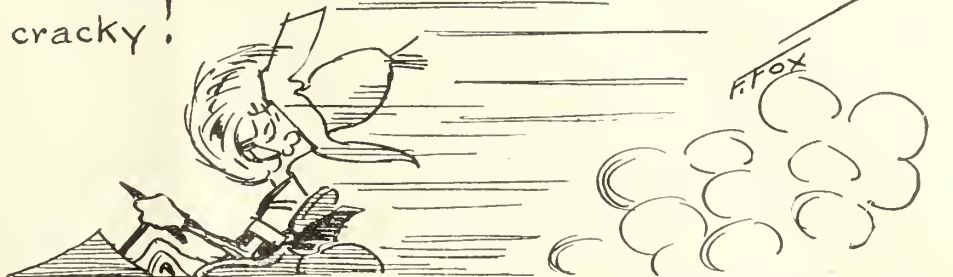
20 mile, I cackullate.



30 mile! by heck!



Ha! touchin' my hat!
40 mile by cracky!



Courtesy of the Chicago Evening Post

READ OUR AUTO ADS—THEY HAVE THE RIGHT DOPE

ILLINOIS MEDICAL JOURNAL

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OCTOBER, 1913

Editorials

THE ABUSED MEDICAL CHARITY.

It is to laugh! When rogues fall out honest men get their dues—sometimes. Without any invidious classifications or distinctions we might mention that some of the honorable commissioners of Cook county have been having a little family spat. It has long been familiar to those who know, that the County Hospital has always harbored patients in its wards—and especially in its private rooms—who were abundantly able to pay for hospital care as well as medical attention. In the language of the internes such persons have been and still are known as “Warden Specials.” Warden specials are usually assigned to the small rooms off the large wards, rooms supposed to be reserved for patients who are extremely ill. The attending men and the internes are tactfully informed that So-and-so is a particular friend of Commissioner What’s-his-name, who will hold it as a special favor if the doctor will give the patient his especial care and “do his best for him”; as if doing his best for the patients in the hospital were not always the doctor’s custom and his pride.

The medical men and women at the County Hospital have been quite accustomed to these

“Warden Specials”; they have always encountered them through all administrations, both grafter and reformer; yea, even through the present year of grace, 1913, under the present angelic reformers’ administration. People come to the receiving ward of the hospital bearing cards from this and that commissioner recommending and even ordering their admission to the hospital. In passing let us remember that all any indigent person has to do to get admitted is to come to the hospital and to be suffering from some physical trouble which needs hospital care. Therefore no legitimate case ever requires a card or a recommendation from anybody. A great many people however think that, even if really ill, the word of a commissioner or other politician is a necessary prerequisite to admission. The commissioner does not tell them otherwise because his supposed ability to get people into the hospital enhances his political fortunes. Up to very lately the order of a commissioner has always had great weight in the front office even in the cases of persons who were not ill or who were able to pay.

An amusing little story is told among the attending physicians and the internes. It seems that a short time ago (during these present reform times, by the way) a man came to the examining room and was carefully gone over by the examining interne. Nothing physically abnormal was found. There came, however, strong representations from higher up that the man must be admitted and that it was up to the interne to find some diagnosis to write on the admission card as an ostensible reason for the patient’s (?) admission. Now it often comes to pass that a mother is admitted for legitimate reasons and she is forced to bring her baby with her. The baby has an admission card having the diagnosis blank filled out with the word “feeder.” So our bright young interne admits this particular “Warden Special” as a “feeder,” probably as correct a diagnosis as he will ever make. History does not state whether this young Aesculapius has yet been hanged, drawn and quartered or has been banished to Siberia.

But the little private graft of the commissioners has been rudely disturbed within the last few weeks. There is a breach in the Honorable Board of Commissioners of Cook county. The reformer lambs arrayed on the right hand of the reformer president and the political goats on his left hand

are making faces at each other. Word went out to the hospital and to the county agent's office that the hospital was for the sick poor of the county and not for the well or for those sick able to pay. It was intimated that at least certain commissioners were not to be allowed to have "Warden Specials" in the hospital any more. Among some commissioners who had sent people to the hospital with cards demanding their admission and who had been "turned down" was a certain belligerent one who immediately went over to see about it. Finding the employe who had refused one of his clients and had thus "incurred the patron's ire," he promptly knocked him down and slapped him on the wrist. Later, in the board meeting, his righteous indignation so overcame him that, his own lurid words failing him, he threw a large collection of the words of another at a certain reform lamb. The heavy volume containing the words hit the lamb on the nose. Things were somewhat mussed up, the president of the board, the reform lambs and the *Chicago Tribune* were terribly shocked and the whole story got to the public.

The result will be that, at least for a time, the Cook County Hospital will be reserved for its legitimate beneficiaries, namely, the sick and injured poor of the county, and the members of the attending staff will not be compelled to treat free well-to-do friends of influential politicians or able-bodied "bums." It is a sad commentary upon the condition of things in the medical profession that the abuse of medical charity in the County Hospital should receive this body blow not from the organized profession itself but because of an especially nasty squabble among the county commissioners.

The Committee on Abuse of Medical Charity of the Chicago Medical Society has elaborated a plan for lessening the abuse in the hospitals of the city, including the County Hospital, by means of publication in the *Bulletin* of the names of free ward patients admitted to the various hospitals of the city. Most of the larger hospitals so far have failed to reply to requests for lists of such names. The plan has met with little support among the better advertised members of the local profession. Indeed our peerless leaders have seemed to have little love for any scheme aiming to lessen the abuse of medical charity in the large dispensaries and hospitals. It remains for the rank and file of

the organized profession of the city and state to strike while the iron is hot and to create such a public opinion against all forms of abuse of the charity of the profession that a reform in that line will be forced.

HOSPITAL LEGISLATION.

The influence of the county medical societies working in connection or alliance with civic organizations and women's clubs to arouse public interest in health questions has been exemplified in the recent history of the campaign to secure laws for the establishment of hospitals by co-operation between the cities and counties of Texas. The last legislature passed such a bill requiring counties in which there are cities of 10,000 inhabitants or more to hold a hospital bond election whether so petitioned or not. In all other counties it is necessary for 10 per cent. of the voters to petition for such election. Mr. R. J. Newton, executive secretary of the Texas Anti-Tuberculosis Association has been especially active in the campaign for hospitals. His reports indicate that several counties are now actively engaged in taking the necessary steps to secure hospitals under the new law and a much larger number are becoming interested in the proposition. Mr. Newton has made free use in his literature of the excellent cuts of the Chicago Department of Health *Bulletin*.

The climate of Texas has always had a special attraction for the tubercular and so many patients from the East and North have gone to that state with limited funds that they have become a serious embarrassment to the various communities. The Texas State Medical Association adopted two resolutions on this subject. One called upon the U. S. Public Health Service to investigate the situation, and the other called upon congress to set aside abandoned military posts for the care of the indigent stranger consumptives and to maintain them at federal expense. *The Texas State Journal of Medicine*, commenting on these resolutions says: "It is extremely doubtful whether anything will come of the effort."

Now that tuberculosis is generally known to be curable in any climate there is small excuse or reason for sending the tubercular away from home, unless to a sanatorium, and that does not imply a change of climate for sanatoria are to be found in practically every state in the Union.

The new Indiana law (Act of March 10, 1913), provides that the board of county commissioners of any county shall have power to establish a county hospital for the care and treatment of persons suffering with tuberculosis. The board has the power "to borrow money for the erection of such hospital and for the purchase of a site therefor, on the credit of the county and issue county obligations therefor, in such manner as it may do for other county purposes." Provision is made for the free treatment of indigent patients of the county, and for payment from those who can pay or whose relatives can pay an amount not exceeding the average per capita cost of maintenance. Patients from counties not having a hospital can be admitted on the same terms when the capacity of the hospital is not fully taken by residents. In such case the "home" township trustees provide transportation and the maintenance fees.

TRAUMATIC HYSTERIA AND FREUD'S CONCEPTION OF HYSTERIA.

The discussion of Freud's ideas concerning the etiology of hysteria and the other psychoneuroses has been universal. There are many ardent supporters and just as many confirmed opponents.

The essence of the Freudian theory of hysteria may be briefly stated as follows: There is in hysteria a dissociation or disintegration of the personal consciousness, with the release of certain buried, hidden, repressed complexes or constellations of ideas which have been forgotten but continued to exist dynamically in the region of the unconscious, unknown to the individual. The cause of this dissociation is some (psychic) trauma or injury, of a sexual nature, which occurred originally in infancy or early childhood. Sexual, as used by the Freudian school, has a very broad meaning. It is by no means synonymous with sensuous. It includes all possible sexually pleasurable feelings or tendencies, physical or psychical, including incestuous, bisexual and polymorphous perverse sexual tendencies. The Freudians have made much of these latter sexual tendencies of the child and the psychoneurotic, especially of the hysteric. Their idea is that the polymorphous perverse sexual activities are quite decided in the infant and the child. With advance toward puberty the genital zone gradually assumes the ascendancy, and is made the center of the sexual

excitation and activity. However, the so-called erogenous zones (such as the rectum, bladder, mucous membrane of the mouth and tongue), which up to this time have been capable of independent excitation with the production of sexual pleasure, may still continue to be active or their activity may be resumed after a period of suppression. Definite bisexual and incestuous tendencies also exist, the Freudians believe. These activities are gradually suppressed and are replaced by fancies of this nature—psychical instead of physical. These fancies and thoughts are disagreeable to and incompatible with the better thoughts and tendencies of the individual and opposed to the social and ethical standards and inhibitions. Consequently efforts are made to repress them and hide them from the personal consciousness. They are forced into the unconsciousness and are apparently forgotten, but, unknown to the individual, continue to exist, to accumulate energy and grow dynamically until they become so powerful that they make their appearance in disguised form. Thus the thoughts appear transformed and symbolically expressed in the dreams and fancies of hysterics, in their psychic symptoms, and in their somatic symptoms, which latter, according to Freud, are nothing more than the manifestations of the sexual activity of the individual. It is unnecessary at this time to discuss the extensions of the Freudian theory. An extensive psychology has been elaborated.

The battle-cry of the Freudian school in the case of hysteria (and also other psychoneuroses and neuroses), is that it is primarily dependent upon a disturbance in the sexual life of the individual. The sexual disturbance may be of any nature but frequently or generally partakes of the nature of a sexual perversion which is really at the bottom of the condition.

The immediate experience producing the dissociation may be of any nature—but essentially and fundamentally the underlying cause is the sexual trauma of ancient origin which is the subsoil permitting the hysteria to be developed.

The question which should come to mind at once is: How will Freud explain the so-called traumatic neuroses and psychoneuroses, included amongst which is traumatic hysteria? The essential symptoms are in no way different. The etiology here seems to be definite. The individual has reacted biologically to a situation in which

self-preservation was obviously the dominant motive. The trauma here, of psychical nature, alone or combined with actual physical shock, which has produced the hysteria is mainly concerned with the self-preservation of the individual. Surely, one feels certain, sexuality plays no rôle here. How, we may ask, will Freudians explain this? We have not yet seen this question asked of or answered by the Freudians. Will the Freudians insist that in these cases also the sexuality is the real cause, and the accident was only an immediate, secondary, contributing but minor factor? We should like to hear from the Freudians on this matter. What have they to offer?

THE MAYO CLINICS.

Below is a fac-simile of a postal card received by Chicago doctors.

THE MAYO CLINICS

The Mayo Clinics at Rochester begin promptly at 8.00 a. m. The Great Western Limited leaving Chicago daily at 6.30 p. m. with sleeper for Rochester is the only train which enables you to be present at the commencement of the work.

Best route for your patients, too.

For tickets and berths call on or phone H. C. Hilbourne, General Agent Passenger Department, Chicago Great Western R. R., 62 West Adams Street, Chicago. Phone Central 5269. Train leaves from Grand Central Station, Fifth Avenue and Harrison Street.

Will the Minnesota State Medical Association stand for this, or will the same brand of white-wash be applied as was used in the case of skillfully devised articles in certain lay magazines?

Correspondence

A NEW RHEUMATISM SPECIFIC.

The following letter was written by a young layman who, we presume, saw visions—of dollars. The letter was mailed to physicians and was printed with comments, in the *Journal A. M. A.*, August 30. The reply by a physician is, we think, too good not to be published.

July 31, 1913.

Dear Doctor: I have in my possession a physician's prescription for rheumatism, which has eliminated the pain every time I have used it. I am subject to acute attacks about once or twice a year, and, as above stated, this remedy surely does the work. I fully believe that, should you prescribe it for any of your patients, good results would be obtained. My own family physician pre-

scribes this remedy with success, and thereby endorses it.

If you will send me one dollar in enclosed envelope, I will take pleasure in mailing you a copy of this prescription, which you should have without fail.

RUBENVILLE, IND., JOSH CENTER TOWNSHIP,

August 1, 1913.

Dear Sir: I am in receipt of your very cordial invitation to invest some money with you. Enclosed please find \$1.00—I'll be d——md if I can. You certainly are a lemon and your family physician, who you state endorses your prescription, must be a peach. Wallingford has nothing on you, and Old Doc Yak is the veriest amateur in your class.

If you are the living testimonial of your prescription it must not only contain excellent remedies for rheumatism, as you state, but must be a powerful stimulant to the gall and nerves as well.

When Caesar wrote that "All Gaul was quartered into three halves" he evidently had never heard of you.

Physicians may bite on oil stock and subscribe for "Edition De Luxe" volumes of the "World's Best" but they won't bite, Lemmy, on the bait you use.

Just a suggestion ere we part, for you are so deliciously fresh that one cannot begrudge the two-cent stamp that is expended upon you: stick to the coal business, for when you attempt to roam so far afield you are lost. If your coal is as full of clinkers as is your scheme for separating country doctors from the "long green" it will require careful washing—hand washed at that.

Cordially yours,

N. O. SUCKER, M. D.

Special Article

MODERN REFRIGERATION

In view of the increasing difficulty of securing sanitary water supplies and the doubly serious problem of sanitary ice, the appearance on the American market of a little refrigerating machine, suitable for the family refrigerator, is of the greatest importance. This machine is of French origin, and has been in operation in that country for something like seven years. It is arranged so that it can be applied to any re-

frigerator (and in the larger sizes to a series of refrigerators), and produces temperatures lower than can be secured with ice, giving a dry cold and the better sanitary conditions that go therewith. At the same time the machine makes such actual ice as is required for table use or for drinks, and holds ready for instant use enough ice to take care of special requirements, such as making ice cream, etc.

The price of these machines at the present time puts them beyond the reach of a great many people. The field for them is nevertheless a very large one, and as the public becomes better informed regarding the importance and also the possibility of more sanitary storage of food supplies in the home, this field will increase very greatly. Up to the present time there has been no great commercial incentive to spreading information regarding the value of lower temperatures and dryer atmosphere in preserving foods in the home, and so long as there was no satisfactory method of securing these conditions it would have been idle for scientific investigators to spend time popularizing information regarding unattainable conditions.

The difficulties which have up to the present time stood in the way of sanitary household refrigeration have been the complication involved in all the refrigerating machines available, and the danger involved in this complication. Most of these machines have used either ammonia or carbonic acid, both of which are subject to considerable danger of explosion from improper handling of the machine. It is a well-known fact that any serious exposure to ammonia fumes is very apt to be followed by an attack of pneumonia. The cost of operation of these machines has also been a serious handicap.

The appearance on the American market of the French machine above referred to; namely, the Audiffren-Singrun refrigerating machine, marks an advance in the art of refrigerating along very original lines.

It is the invention of the Abbe Marcel Audiffren, a professor of physics at the former Catholic college at Epinal, France. The machine is so simple that as it is arranged for use in this country it is started or stopped by a single motion. There are but two bearings to be oiled. The machine makes less noise than does the motor which drives it. There is no possibility of any

explosion due to the action of the machine. As the manufacturers put it: "If the operator turns on the water and power, the machine turns on the cold."

In appearance the Audiffren-Singrun refrigerating machine is practically a large dumbbell with a pulley on the end. It consists of a shaft having a hollow drum on one end, another drum at the middle, and a pulley at the other end. The machine is carried in two bearings, the shaft being placed horizontally and the bearings being located one on each side of the drum at the middle of the shaft. When the machine is revolving in these bearings the end drum becomes cool and the drum at the middle becomes warm. Water is kept supplied to the middle drum to keep it from becoming too warm, and the cooling effect of the end drum is used to cool brine (common salt and water), which brine is then circulated through cooling coils which may be placed wherever it is convenient.

The machine operates by causing a liquid to evaporate in the drum at the end of the shaft, drawing the gas resulting from this evaporation into the middle drum through a passage in the shaft. In this middle drum the gas is compressed and returned to the liquid state after giving out its heat, and is then allowed to pass back to the end drum through a second passage in the shaft to be re-evaporated and repeat its cycle of operation.

The working parts of the machine are hermetically sealed within the drums and are lubricated by a bath of oil, which together with the refrigerant is charged into the machine in the factory and remains permanently.

This feature of hermetically sealing and the permanency of both the lubricant and the refrigerant is the most striking thing about this machine. There is no breaking down of the refrigerant and none can escape, so that this part of the apparatus is permanent. The oil is protected from oxidation and also from dirt, thus avoiding the two sources of deterioration of oil. Upon this fact, and upon the skillful design of the parts so that they are constantly subject to the most thorough lubrication, the life and success of the machine depend.

Those who are familiar with the laws of thermodynamics will realize at a glance that the machine automatically operates under the very best

possible conditions as regards economy, whereas, in the old type of machine economy cannot be secured except by the most constant and skillful attention.

Refrigeration secured by these machines is applied to practical service by pumping the brine which has been cooled up to and through the cooling surface which may be placed in the refrigerators to be cooled. Various designs of cooling surface have been developed for use with the machine a number of which have been developed in this country in adapting the machine to the different conditions existing here. The machine is also arranged so that it starts and stops automatically under the control of the temperatures in the refrigerator being cooled. In this way no power is wasted. When the requirement for refrigeration ceases the consumption of power and water is automatically cut off.

The ice which is made by these machines is made from the same supply from which the drink-water is drawn. As a result the ice may be placed directly in the water without any possibility of contamination and without the flat taste that distilled water ice has. This ice is invariably opaque, due to the salts and the air which all natural waters carry in solution. For almost all service, however, this opaqueness is of no importance, and when the reason for it is understood there is little objection to it.

There are in the neighborhood of a thousand of these machines in service in France and her colonies, and the American builders of the machine have now several hundred in service in this country.

Notice

Dr. A. M. Harvey, chairman of the Committee of Public Policy of the Illinois State Medical Society, requests, through Dr. W. H. Gilmore, that all county societies arrange special meetings during this Fall and Winter for the consideration and discussion of the subject "Social and Sex Hygiene." He suggests that joint meetings be held with other organizations, such as women's clubs, men's clubs, and teacher's federations. Such meetings, held under the auspices of the county societies, thoroughly advertised and the general public invited, have proven both interesting and instructive to the communities in which they have been held.

Dr. A. C. Cotton Banqueted

On Sept. 25 more than 250 of Dr. Cotton's friends and admirers gathered at the Hotel Sherman, in Chicago, to celebrate by a dinner in his honor, his 66th birthday and his return from the "International Medical Congress" to which he was a delegate. This was one of the rare and notable events in the history of fraternal honors paid to members of professions by their fellows. Professional ability, intellectual powers, devotion, loyalty and integrity, combined with an attractive personality, are sufficiently rare to be appreciated.

Love and admiration of Dr. Cotton made the spirit of the occasion, and sustained a generous manifestation of fellowship and good cheer throughout the program. Delightfully appropriate vocal music was rendered by the Chicago Medical Society Glee Club, composed of Doctors Kleutgen, Lennon, Hardie, Corwin, O'Byrne, O'Neill, Byrne, Stubbs and Betz.

Dr. C. P. Caldwell, president of the Chicago Medical Society, as toastmaster, introducing the program, said:

"It must be a great pleasure to you, as it is to me, to meet here tonight, to do special honor to my old friend and classmate, Dr. A. C. Cotton. I appreciate this opportunity, as president of the Chicago Medical Society, to acknowledge the immense debt of gratitude we owe to the guest of the evening. A soldier whose life-work has been to wage war on disease and death—a sturdy old medical viking, who has practiced modern medicine, who has stood up for sacred truths, for rights, for principles, full of courage and enthusiasm, he has proved his willingness at all times to make material sacrifices for the sake of his colleagues, never thinking of self, but of others. How we love him as a friend and counselor. As my friend Corwin has put it—this is a fine exhibition of fraternal fabrics, the warp and woof of which is Cotton—all Cotton and a yard wide. May Dr. Cotton live long in his brilliant manhood, and we will ever gather around him in wondering admiration."

Introducing Dr. Patton, Dr. Caldwell continued:

"It would take many evenings and many tongues to recount the activities of Dr. Cotton. I can only hope to bring out, through the gentlemen present, some of whom I will call upon, a few of his magnificent achievements."

Dr. Patton: "Mr. Toastmaster, Dr. Cotton, and Dr. Cotton's friends—if it is expected that my remarks be introductory of the guest of the evening, I must disclaim any such intention. Dr. Cotton needs no introduction. His friendships extend from the Atlantic to the Pacific, and his reputation has not even these limitations. To paraphrase Emerson, 'We know that his heart is as big as the world, and has no room in it for the memory of a wrong!' We are here to extend a welcome on his safe return from abroad, and to celebrate his birthday—a milestone in a life of usefulness to the patients he has served, of buoyant friendships to those who have been privileged to enjoy them, and of uplifting influence to the profession he has advanced. Dr. Cotton,

"God grant you many happy years,
Till, when the last has crowned you,
The dawn of endless days appear,
And Heaven is shining round you!"

Toastmaster: "The ancient Greeks had their Apollo, who was the patron of poetry and medicine. We, too, have our Apollo, who is handsome, a good doctor, and a leader of the muses."

Dr. Corwin presented oratorically the following:

ALFRED C. COTTON, A.M., M.D.,
 Pediatrician and Man Four-Square.
 BY ARTHUR M. CORWIN, A.M., M.D.*
 CHICAGO.

Good Sir, and Master of this gracious hour,
 And all ye goodly sirs, both lean and fat,
 Who count a friend of greater worth
 Than name of oligarch or democrat,
 And who delight to show esteem to this,
 The nestor of them all in matters infantile;
 Give heed, I pray, to these, my verses blank,
 For ordinary prose may not express the thought
 And rhymes with cautious, halting feet
 Are all too slow.

'Tis given to womankind
 To draw mere man with silken thread of charm
 Of mind and heart and fascinating form and face,
 And bind him with a golden grace of manner sweet,
 With thrilling touch of lip and soft embrace;
 Her voice like call of mermaid
 From an emerald beckoning wave
 Enceivates him in its liquid depths,
 And if he struggle from its thrall,
 'Tis vain, her soulful eye has shot its conquering
 shaft;
 His virile strength is all her own;
 In servitude he bows, her willing slave.

And yet not all her slave,
 For as to Jonathan a David slave,
 And Damon to his Pythias,
 The brotherhood 'twixt stalwart men
 Was born of old, Divinely chemical,—
 Fraternal atoms they
 Of that primeval plastic clay
 From which they sprang,
 In sworn allegiance through a common origin;
 'Tis thus these atoms men cohere
 To make fair friendship's molecule
 A most coherent stuff.

But as the potter molds from out the mass
 Some fairer shape
 In skillful likeness of a thing divine,
 So differ men, and differ too
 In quality of their ancestral mud;
 Thereby we humans masculine
 In recognition of a bit of finer stuff,
 Though one of us,
 Rejoice to bring spontaneous offering
 Of soul and brawn to Cotton,
 Long our friend, our councilor,
 And yet our critic just.

'Tis our's to laud the *virtues* rare of this our friend,
 His *faults* forget—
 What artist would with sooty brush
 Bedaub the beauties of a sunset sky?
 Nor measure we with fulsome flattery
 His merits fine;
 No honor that to him or us
 And naught to satisfy.
 'Tis mete the rather with an eagle's quill,
 Symbolic of the strength of love we feel,
 To write indelibly and plain
 The happy truths we know of him.

What though of human foibles
 He may have his share;
 If they who do no sin shall claim

Alone the right to cast a stone at him,
 No slower of rock shall fall his way,
 As none of yore.
 Of faults he has a few,
 Some grave, perhaps, why not?
 So have we all.
 We love him for abundant grain of character,
 A priceless store,
 And reckon not of chaff.

A born physician, he,
 For whom, though men and women look
 To cure their ills,
 Especially do infants weep
 In time of pain and fear.
 The voices of ten thousand of these little ones,
 He's seen and saved,
 I seem to hear in mighty chorus to his praise,
 From out the tangle of the sleepless nights
 And weary days he's served—
 The children love him so.
 As follow fast his trail their flying feet,
 Where'er the trumpet of his auto loud they hear,
 So followed children long ago that other piper dear.

The corridors of suffering
 Long years he's paced,
 To bless with reassuring smile and healing touch;
 For decades faced the students' serried ranks
 Dispensing truth;
 And long by pen and voice
 Made records sure.

Wide in his knowledge of the crowd,
 Of books as well;
 Big in experience, manifold;
 Broad in his sympathy for every living thing;
 Keen for the right when hostile wrong obtrudes;
 A fearless, able advocate where principle's at stake;
 His word is sacred more than any bond.
 Wise in advice, in judgment just;
 Quick to detect a sophistry;
 When called extempore to reason on his feet,
 What scion of the law could hope to meet
 On equal field the thrust and parry
 Of his subtle wit?
 Generous to foe, in sacrifice for friend in need,
 He'll launch his craft on any sea,
 And plunge through any storm
 Nor care what dangers threaten him.

In fine, with sunny heart and face benign,
 A wondrous fund of illustrative anecdote at ready call,
 And bubbling, kindly humor, rich with all,
 He stands unshaken in his faith in God and man,
 Three score and six, an optimist,
 A loving, loyal, forceful gentleman.

Dr. Noble: "When considering the career of any man who has excelled his fellows, one's mind naturally turns first to his ancestry, confident that from that source will come important information.

"Some time ago it was my privilege to peruse a mass of old letters and public documents which had been left by the early Puritans who established the Massachusetts Bay Colony. Among these was a letter written to the Governor of the Colony by the Reverend John Cotton. Soon after I interviewed his namesake here and casually asked him if he had any ancestors connected with the founding of that Colony. He promptly replied that six generations removed from his life, in 1633, one of his forebears, the Reverend John Cotton, was active in its affairs. While it is almost a betrayal of confidence to read you this letter, yet I am going to do so, as I am sure it will furnish reasons for the many qualities which have characterized in so not-

*Recited at a dinner given in Dr. Cotton's honor by 250 of his confreres in the Chicago Medical Society at the Hotel Sherman, Sept. 25, 1913.

able a degree our own Dr. Cotton. To fully appreciate it, you must remember that at this time one, Reverend Roger Williams, had dissented from the views held by his colleagues in Boston and had been so severely persecuted at home that he had gathered about him his followers, and proceeded to Rhode Island, where he established a colony of his own. The following is John Cotton's letter:

'To the Honorable Governor of Massachusetts Bay Colony:

Whereas, It is known that one seditious person, yeclpet Roger Williams, a bold and dangerous man, having joined to himself other heretical and seditious characters, and departed from these shores, embued with mischievous purposes against the good of mankind and of the Massachusetts Bay Colony;

Therefore: Be it recommended to the Honorable Governor that a band of resolute and zealous men be at once assembled and placed aboard the good sloop, Polly Ann, now lying empty in Plymouth Bay, and immediate pursuit be made of this blasphemous, seditious and ungodly crew, to the end that they be one and all seized and conveyed in irons to the Barbadoes Islands where they shall be sold to the Islanders as slaves for their price in rum and molasses, whereby great gain shall accrue to the Massachusetts Bay Colony and great glory to God Almighty which is high in the heavens.'

"Now, to account for the many qualities of our Dr. Cotton, springing from an ancestor who could write such a cheerful letter as this, I am satisfied one must disregard the laws of heredity and freely adopt the law of opposites.

"Born in 1847 at a little village of New England settlers in Pike county, Illinois, Dr. Cotton's career, up to the age of thirteen, so far as we have knowledge, was that of a normal boy in a small country town. If he gleaned fruit from neighbors' orchards, or melons from their gardens, it is not of record, but at this age, which brings him to 1860, the beginning of the Civil War, we hear him enthusiastically learning to play the drum. Things were stirring about that time; martial spirit and military activities dominated every village and hamlet in the country. Three years passed and President Lincoln issued his last call for troops. At Quincy, Illinois, the regiment of the 137th Volunteer Infantry was being organized, and this young lad, then 16 years of age, on the 1st of May, 1864, enlisted as a drummer boy. He served in this capacity only a short time, for when the 137th Illinois went into service, defending the city of Memphis, while the seasoned troops were withdrawn to pursue Forest, the Confederate Cavalry leader, the sixteen-year-old drummer boy was in the ranks carrying a musket. It is a matter of history how Forest led the Union troops in a circle, doubled on his course and returned to Memphis and attacked the city for the purpose of releasing Confederate prisoners and looting the banks. A portion of the 137th Illinois, and of other raw regiments, was captured and sent south to Confederate prisons, where Cotton was detained for nine months until discharged at the close of the war, wounded and ill.

"As soon as his health permitted, he proceeded to complete his education, graduating in 1869 from the Illinois Normal University after teaching as principal and superintendent of public schools in his native state, he matriculated at Rush Medical College, obtaining his degree in 1878. You are all more or less familiar with his career from this time on, as general practitioner, as specialist in diseases of children, and teacher in Rush Medical College—for more than a third of a century, as one who had the confidence and esteem of his associates and the admiration of the students.

"Dr. Cotton: On behalf of your friends here as-

sembled, as a slight expression of the ever-increasing high esteem in which you are held by them, I present to you this watch. In doing so you are not to infer that they are in any sense 'calling time on you,' but reliable information coming to the committee having this matter in charge, that the time-piece which you have carried for thirty-five years is beginning to show the effects of age and wear, they were fearful that when we celebrate your 86th anniversary, twenty years hence it might fail you so we present you tonight with this watch, with confidence that in twenty years from now you will be on time with us again. It is to be worn, I believe, somewhere near your heart."

To Dr. Noble's presentation Dr. Cotton briefly but feelingly responded.

Dr. O'Neill: "Why do we honor Dr. Cotton this evening? Not because he is advancing in years—not because his hair is white—not because he has been many years associated with us—else he would not be distinguished. It is because he is big physically, mentally, and morally. Out of the million of mankind, there occasionally occurs a great man, and tonight that man is Cotton. In the biography of Dr. Cotton, given by Dr. Noble, you must have noticed the steps in the development. First, drummer boy at 16—drummer boy to soldier and paid the soldier's penalty—soldier to scholar—scholar to teacher—teacher to doctor—doctor to teacher of doctors—teacher of doctors to leader of doctors. What an upward growth, flowering into fullness and greatness, looking over the cold and barren peaks of human struggles and misery, seeing the only remedy—moral force—this Juvenal takes Hannibal in the palm of his hand. Carlyle says, 'No age is lost if a great man can be found.' The decadence and crumbling of empires follow upon the loss of their great men. Then the age becomes dark.

"Dr. Cotton came with a great constellation. We intuitively recognize a great man—that strong personality, we awaken and look at that inscrutable and indefinable something we call personality—that constellation of men moves on, a constellation which made Chicago one of the brightest spots in the world of medicine and surgery. The profession—yes, humanity is safe while Cotton is with us, and may it be very many years—such men never die, and the mind and spirit of Cotton will emit a light which will never fail—nay, not even when the prophecy of Isaiah shall have come to pass 'And the Earth and Heavens shall have passed away.'

Dr. Whalen, President of Illinois Medical Society: "It affords me great pleasure to be here and add my mite to this testimonial to Dr. Cotton. It has been my pleasure to know Dr. Cotton since my student days in Rush Medical College, and the friendship formed at that time has only been amplified in the course of added years.

"Those of you who were fortunate enough to have been students under him will recall that he was considered then not only as a wise dispenser of medicine, but that he was known far and wide, as he is now, as a dispenser of much valuable but often blunt philosophy. By way of illustration I am going to relate an incident with Dr. Cotton's permission. One afternoon while I was in his office, a young man of his acquaintance entered and the following dialogue took place: 'I have not come for pills this time, doctor, but for advice. Doctor, I am young and I want you to tell me how to get rich.' The genial Cotton replied: 'Yes, I can tell you. You are young and can accomplish your object if you will. Your plan is this: First, be industrious and economical; save as much as possible and spend as little. Pile up the dollars and put them at interest to work for you. If you follow out these instruction by the time you reach my age, you'll be as rich as Croesus and as mean as hell.'

"Dr. Cotton needs no banquet nor speech to demonstrate the place he fills. The real sentiment is written in your beaming faces. The representation of the great professional and scientific bodies that are here tonight, speaks loudly in his honor. Words of praise are sometimes questioned, but the spontaneous outflow of hearts of love never can be questioned.

"Dr. Cotton made Chicago his home some forty years ago. He came to this city unsupported and unhandicapped by ancestral pedigree; he came without influence, except the inherent gifts of a great soul and a great intellect. By the sheer force of such power he forged to the front and has carried the banner of success and planted it on the citadel of every undertaking; his private and public life shows that he is deep, discerning and analytical; that he possesses a mind that is broad and liberal and a judgment that is true. He has filled many positions, accumulated friends that are legion, yet amidst all the multiplicity of his professional and official life, his integrity and character remain unimpeached.

"I have known Dr. Cotton long and intimately and I have seen him tested under many trying conditions. In the transitional stage, in the conversion of the rule of the Chicago Medical Society from an oligarchy to a democracy the position of Dr. Cotton was epochal. In that struggle conditions demanded as a leader no summer soldier or sunshine patriot. Times like these called for no political dilettante, who comes into camp when honors are most ripe to pluck. They called for no half-fledged chancicleer who was only just beginning to acquire a democratic crow. The time needed a general who had suffered the hardships of the camp, the toils of the march, the dangers of the field; one who had stood at the bloody angles and who had proved his mettle in the baptism of fire. Dr. Cotton met all these requirements.

"He does not cling to a thing simply because it is hoary with age. Neither will he embrace it because it is new. He is conservative enough to believe that nothing should be destroyed merely because it has lasted a long time. He is progressive enough not to reject an idea simply because it is not covered with the mildew of antiquity.

"These lines from Wayland Hoyt illustrate the character of Dr. Cotton; they also contain a sentiment which his life beautifully exemplifies:

"What are we here for, you and I,
As the long and wonderful days go by;
Each one stretching to us a hand
Filled with privilege high and grand?
Born of a meaning our lives must be,
God has a purpose in you and me.

"We are here, you and I, to pass along
Blossoms of kindness and gladness and song;
To give of our joy a sacred cup
That the hearts around us may be brimmed up;
And to hold to the struggling, where'er we stand,
The comfort and strength of a helping hand."

Dr. T. W. Brophy: "I accepted the invitation to be present tonight with the keenest delight. It was my good fortune to be one of Dr. Cotton's classmates at Rush Medical College. Dr. Cotton was even then a leader of men, brilliant in his classes, lovable in his personality, noble in his character. Dr. Cotton was the valedictorian of his class. I remember one episode during his student days, when he was delegated to present Professor Walter S. Haines with a microscope—a testimonial from the class—it was a monocular, all that the class could afford. In presenting the microscope he said: 'We did not give you a binocular, hoping that you would close one eye to our many faults and with the other magnify our few virtues.'

"Dr. Cotton held the chair of Diseases of Children

for many years in Rush Medical College. Foremost as a teacher of the subject in the United States, he was the ideal doctor of the hundreds of students who passed through the institution and who profited by his example. It is a pleasure to me, as I look around this hall and see so many graduates of Rush, graduates of every class for the past 38 years, also representatives of every college and society of medicine in the state, representatives of the army and marine medical corps and other organizations, to note that upon the foundation of friendships laid by Dr. Cotton 40 years ago, has been reared a magnificent temple of love and admiration. I feel that Dr. Cotton's best work is still before him, and that now he is approaching the zenith of his powers. Magnificent as has been his work, I feel that in future he will excel any of the past."

Dr. John A. Robison: "I must say I would have been greatly disappointed if I had not had an opportunity to voice my deep affection for our silver-haired, smiling-faced friend. Dr. Cotton has been associated with me for many years in college, hospital and professional work. He is the Mount Blanc of the medical profession of Illinois, snow-capped summer and winter, his peaks catch the morning and evening rays, reflecting light into the dark places. His sturdy form has been active in good deeds for mankind, laymen, and professional friends. I believe, Dr. Cotton, you will cherish the memories of this night as one of the choice occasions of your life, for these genuine expressions of love are more precious to receive than gold and gems. We hope that you will continue to be linked to us, your friends, for many years to come with these chains of fraternity."

Dr. J. Chase Stubbs: "There are two words in the English language which stand forth prominently and boldly—one is brother and the other is friend. Brotherhood is an accident of birth—one has no choice in the selection of his brother or brothers. Friendship occurs by attraction. It grows as the flower, conceived in the bud, ripens, expands, and unfolds its beauty to the sunlight, giving us the full blown flower. Friendship, unlike the flower, never dies. Friendship is always green, it is never young, neither is it ever old. It is not measured by time. Tonight we are all gathered together to tell our esteemed friend that we know him and that we prize his friendship. In place of waiting until our friends are laid away to rest, to shed the silent tear and drop a flower of tribute, we all gather together to give a joyous home-coming and to tell our honored guest that we honor, cherish, and love him while he is still in the full vigor of life."

Dr. Van Derslice: "We are here to do honor to the man who has been my teacher, superior, friend and brother for the past twenty years. No one can know the extreme gratification with which I view this body of representative medical men assembled here to do honor to him who has had more to do than any other man in the shaping of my medical career.

"Were I to eulogize him my thought would not run in the same channel as those who have preceded me this evening. We all recognize the army of friends that he has all over this country. It has seemed that to know him was to love him, but do we love him most for the friends or for the enemies he has made?

"As I look over this friendship of twenty years, one trait of his character stands out above all the rest: that is his loyalty to his friends. Cotton has suffered more, endured more for his friends than human mind can estimate. This high cost of loyalty must in a way be repaid by the reward of his knowing that we, his friends, know the fearful cost and recognize that sterling integrity in him that has endeared him to us and entrenched him in our hearts."

For want of space only a brief synopsis of the many speeches of praise and congratulation may be given:

Col. James J. Healy, a civil war veteran and late of the 2nd Regt. I. N. G. after speaking feelingly of his

thirty years' intimate association with Dr. Cotton in the Veteran Union League, the G. A. R. and in the I. N. G., said, "Whether in camp as surgeon of the artillery battalion, in post as commander or in the Veteran Union League as a comrade, Captain Cotton was always consistent as an advocate of fair play. Always courageous in opposing cliques and ring rule, always popular on account of his character and personality."

Prof. D. W. Graham, ex-president of the Chicago and State Medical Societies, who served in the Civil War, a former teacher of Dr. Cotton's and later a colleague in hospital and college, said in part: "Our guest of the evening has been for many years my near neighbor, and I have always been proud to call him friend. Differing at times on matters of public or professional policy I have found him always honorable, fearless and straightforward with a personality that won him friends even among his political opponents."

"The merited encomiums heaped upon Dr. Cotton tonight by his fellows of the profession might well cause a less worthy heart to quail in fear of failure to make good in the future."

Dr. J. W. Pettit, former president State Medical Society, after expressing his great pleasure at being present at this magnificent ovation related a number of laughable experiences with Dr. Cotton forty-four years ago when the latter was principal of schools in southern Illinois, later renewing his acquaintance as his teacher in Rush Medical College. He eulogized Dr. Cotton's high character as instructor, author, friend and opponent.

Dr. C. S. Bacon, former president Chicago Medical Society, after congratulating Dr. Cotton upon this magnificent demonstration of friendship and appreciation entered at length upon an analytical exegesis regarding our guest's popularity and stated that ability, honesty, loyalty and character might in this instance be summed up in the one word personality.

Dr. Jacob Frank, retiring president Chicago Medical Society, reviewed at some length the different stages of Dr. Cotton's record as from the films of a cinematograph and from past performance and achievements predicted that the future held for him still more distinguished honors.

Dr. P. J. H. Farrell, late secretary Chicago Medical Society, and late captain in U. S. Army, congratulated Dr. Cotton upon the high esteem in which he was held by his old veteran friends and spoke feelingly of personal encouragement from our guest at a time when he was new to the profession in Chicago.

"This gathering is the most remarkable tribute to a man's character and ability that I have ever witnessed."

Dr. John Dill Robertson, president medical department Loyola University, spoke of his only too short acquaintance with Dr. Cotton. Congratulated him upon the well merited esteem of his fellows because of his achievements quoting:

"Somebody said it couldn't be done,
But he with a chuckle replied
That maybe it couldn't, but he would be one
Who wouldn't say so till he'd tried.
So he buckled right in with the trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.

"Somebody scoffed—Oh you'll never do that
At least no one ever has done it.
But he took off his coat and he took off his hat,
And the first thing he knew he'd begun it.
With the lift of his chin and a bit of a grin,
Without any doubt or quiddit, he started to sing,
As he talked of the thing
That couldn't be done—and he did it."

Since the impromptu ovation scores of messages

by wire, letter and telephone have been received regretting that the senders were not informed in time to participate in the home coming welcome to Dr. Cotton.

The brief time allowed for preparation and the fact that so large an ovation was not contemplated must be responsible for this lack of general notice.

SAYINGS OF THE FOUR WISE MEN

The first duty of a statesman is to preserve the public health.—Gladstone.

The care of the public health has become the first duty of the state.—Mayo.

Our national health is physically our greatest national asset.—Roosevelt.

But I believe that the conservation of men and women is of paramount importance in this world.
—Bryan.—*From Bulletin Kansas State Board of Health.*

HEALTH GRAM

Outdoor air is the best.

Try this prescription.

Any old physieian—

I'll bet two bones—

Recommends it:

Golfers know it:

R Seasonable clothes, q. s.,

(A sufficient outfit.)

Mislay your cares:

Sally forth:

March till in a healthy glow.

Don't fail to repeat p. r. n.

After the Bulletin (A Long Way).

To measure the health security of a neighborhood, take a look at its back yards and its alleys. Shun a dirty neighborhood.



Eat, drink and be merry, for
to-morrow we diet:

A funny old bird is the pelican.

His bill can hold more than his belican.

He can tote in his beak

Enough food for a week,

But we don't understand how the helican.

—Eatgrams from the *Chicago Daily Press.*

POOR GAS IS PASSING AWAY



(From the Automobile.)

SETTLING THE GASOLINE QUESTION

Auto Sparks and Kicks

Under this heading the doctor with a motor car will be kept posted on all the latest devices of merit for the pleasure and comfort of motor-ing on the one hand or for improving the oper-ation of the mechanism on the other. It is im-possible to make this exhaustive in any one issue, but in the course of a year this department will be made as complete as possible. We will appre-ciate tips from readers as to lines of accessories in which they are interested.

THE GLARING HEADLIGHT.

With the vast number of cars on the streets, most of them equipped with powerful electric lights, driving is becoming a dangerous occupa-tion because of the blinding effect on those driv-ing in opposite directions.

A stream of half a dozen cars, each with pene-trating electric rays shooting ahead, makes it impossible for the approaching driver to see ahead at all, even if he has strong lights of his own.

It is true many of the lights are out of focus or have been improperly pitched—and this will continue unless something more than common sense is used to right matters.

As a matter of fact, headlights are not neces-sary on most boulevards and many prominent streets; they are a decided necessity in some parts of the city and in suburbs.

But there is no necessity for making any radi-cal changes in the lights as now made—they may be properly pitched and properly focused

and eliminate much of the objections; and still better, they may be fitted with a dimmer.—*Root's Motor Digest.*

CUTTING DOWN THE COST OF MOTORING.

The recent performance of a New York man in driving a well known air-cooled car a distance of 83.5 miles on 1 gallon of gasoline is worth more than passing mention, even though it may have been more or less of a publicity stunt. It is true, also, that the car was especially prepared for the test by the addition of a number of ball bearings to lessen friction, and also by the re-moval of all superfluous parts so as to bring the weight of the car down as low as possible. That such a thing can be done at all calls attention to the fact that every motorist can economize on his fuel to the extent of saving about a third if he will simply give close attention to this matter until it has become second nature to him. Fuel can be saved by coasting down hills; it can be saved by making very steep hills on the second gear and running the engine more slowly; it can be saved by slowing the car to take turns in-stead of running up to them fast and then using the brake, and in a dozen other ways which will occur to any experienced driver.

Perhaps the real merit of the performance mentioned will be more apparent if some addi-tional figures are given. The car was a four-cylinder air-cooled one and as stripped weighed 1,995 pounds so that the ton-mileage a gallon works out at 83.28. When it is considered that the average car owner seldom gets above one-fourth of this fuel consumption (20.9 or in round figures 21 miles a gallon), and not one in a hundred does better than a ton-mileage of 25, a good idea is obtained of what the test showed was possible. Twenty-five ton-miles a gallon works out to 20 miles of traveling for a car weighing 2,500 pounds, 16.6 miles for a 3,000-pound car and 14.3 for a car which scales 3,500. From this it may be seen that the performance cited is about four times as good as the average owner is able to do. With the present price of fuel it should be borne in mind that even a very small saving like 10 per cent is well worth quite a little time and effort to say nothing of an enormous one amounting to perhaps 400 to 500 per cent as has just been pointed out.—*Motor Life.*

Society Proceedings

ALEXANDER COUNTY

Regular Meeting, June 19, 1913.

At the meeting of June 19, 1913, the following paper was read:

DOES NOT SCIENTIFIC MEDICINE CALL FOR CHANGE OF SPECIALISM?

A. A. BONDURANT.

CAIRO, ILL.

By "Medicine" I mean the science of healing, or relieving the abnormal condition of fellow beings, whether by the so-called general practitioner or specialist. Since the days when the barbers were surgeons the specialists have multiplied by division and subdivision, until most every important part of our anatomy has its medical friend, who lauds its importance, and by actions if not words, minimizes the remaining anatomical parts without which his idol could not have existed. I could not, nor would I detract from the grand achievements of specialists from the beginning to this moment. Mankind has ever honored the practice or art, now science of medicine. For the old stock is going to be disposed of, slowly at first, but rapidly within the near future, when an invoice of specialists will not reveal their identity by the size of hand-bag, tone of voice, or blood in eye, but by the essence of concentrated thought, gleaned from analytical study of man, normal and abnormal, and the cause of the latter which necessarily implies, as far as possible, the removal of the cause.

The new era of specialism will not be recognized as now by an anatomical line of demarcation distinctly drawn; as eye, ear, nose, chest, abdomen, genito-urinary, rectal, skin, orthopedic, nervous, heart, lungs, kidney, stomach, circulatory, feeble-minded, insane (pardon the digression), why has not some enterprising M. D. made a specialty of "attention to intelligent people"; I cannot enumerate all, but will mention a few more; the surgeon, gynecologist, children, male, female and even specialists for the fat and lean. The future specialist will, first, be a diagnostician; that is what every M. D. should be, for without it he is not a physician, simply an imitator, or a mechanic, of which there are many grades. Once a diagnostician (not by proxy), as "Dick" says urine is so and so; "Jerry" says stomach is so and so; "Harry" says reflexes are so and so; "Sam" says field of vision is contracted, right eye astigmatic and vision in same 20/40, left eye vision equals 20/200, but can't find the cause; a surgeon may be inclined to place more importance upon those findings which indicated the necessity of a brilliant operation; if an internal medicine man, he may stand by the opposite side of the equation as given to him. The one who does the work has a different spirit leading him, as his personal equation yields to the evidence that is clear cut, because it is more certain.

Here beginneth the future specialists: Tubercular

infection invades every organ in our bodies, as do syphilis, typhoid, malaria, rheumatic, cancer, streptococcic, diplococcic, alcoholism. You may be an expert at syphilis, but the orthopedic surgeon will draw the line if you approach the syphilitic joint. The skin man will defy you, the oculist ignore you. The streptococcic endometrium and tube following confinement may cause a ruffle between the obstetrician and gynecologists, by crossing the imaginary line between the bread-winning domains of adjoining neighbors; the obstetrician herd has entered the field of the gynecologist, who proceeds to reap the harvest, practically because of the time-honored argument, "Possession is Nine Points in Law," "O" imported, nourished, and multiplied cocci from 1 to 8 or 10 days, receiving the sum of \$10.00 to \$40.00 for his services, "G" receives from one to five hundred dollars for a much less expenditure of nerve force and labor. Other things equal, "O" was the better prepared to muzzle and destroy the enemy, he having observed his peculiar mode of invasion and degree of resistance.

In 1865, Robley Dunglison describes a specialist as, "One who devotes himself to a specialty; as to diseases of particular parts, as of the eye, ear, chest, etc." As practiced today the great Lexicographer's definition would need no revision. In 1904, Prof. C. M. Stevans' Revised Common Sense Dictionary says: "Specialist—a person who devotes himself to, or who has a special knowledge of some particular subject." The latter explanation is nearer in keeping with the known truths of this period, but has not been accepted by our specialists.

Is diphtheria a disease of the nose and throat and so treated and conceded as the property of the specialist? Answer. No, the up-to-date medical man immediately proceeds to secure and administer the remedy, usually in side or back of infected child because that part of his anatomy is best suited to receive the specific remedy. Search the storehouse of your knowledge and mention the disease, or diseases, purely local to any organ of man. Not a disease of heart, lung, stomach, kidney, intestine, bladder, bone, muscle, etc., but an infection which has invaded heart, lungs, etc., and is pronounced a disease of a special organ because its local manifestations are more pronounced. I cannot recall an infection which is technically local.

The meningitis infection (epidemic) has been found in the nose and throat of patients, but within the cerebrospinal cavities they seem to be at home; other pathologic bacteria produce cerebrospinal meningitis, yet differing in some respects, their most prolific field of action being other organs necessitating a remedy somewhat different, because of different toxines, if best results are expected. So in this a specialist would not be a specialist for the brain and cord, but a qualified bacteriologist, who can utilize both positive and negative evidence. The best and only scientific management of such is to

withdraw some spinal fluid, search and find the enemy, and treat accordingly. Puncturing the spinal canal is a delicate surgical procedure properly done, yet who calls the specialist to perform the task.

To follow the rule, which was recently attempted, to eliminate all so-called internal medicine men from using a surgical knife, would if applied to all alike, confine surgeons to traumatic surgical cases, for they and only they are truthfully local. Can all medical men do surgical work? No, but the percentage of medico-surgical men is fully as high as that of surgico-medical, and he who claims for himself and kind, a superiority entitling them to special privileges, or correctly speaking, seek and demand the curtailment of privileges from their equals leaving the self constituted judges monarch of all they survey, have forgotten one of the principles set forth in the declaration of American Independence, and one of the most beautiful attributes of civilization, *Modesty* as taught by their mothers from early infancy. The best surgeons of today are those who know most scientific medicine and practice same. Save the race from the ravages of those who boast, they know nothing save one of the numerous so-called specialties, as any one is but a fraction of the whole. Many mechanics are used in the construction of a locomotive, each in the part which he knows, but when the locomotive has been assembled and placed for duty, to whom is it entrusted on the mission of life or death—a mechanic? No. An engineer who is supposed to be familiar with all parts, and he must be if he is a high grade engineer.

It is not my province to draw anew imaginary lines through human anatomy and label each section, that future medical men might each take his choice for a specialty, and by close application to same, obtain superior skill, which would seem unnatural, as some specialists would unconsciously paint the map of the medical world, as it now exists.

The greatest physicians today (and by that I include every specialty) is the best diagnostician, clear cut, analytical; monarch of all he surveys, mentally and scientifically qualified to do the best for any defect found in any part of the body.

The thought confronts me here that scientific medicine pleads for few specialties, not limited by anatomical lines, but by the ravages produced by the direction and scope traversed by the cyclone. Knowing the enemy and its customs, one may elect to combat a certain class of infections, and they permeate the entire system, then in that sense he would be a specialist. Should he conquer with serum, antidotes, or combinations, honor him, for such is his due. Failing, discredit him not, for if abscess, paralysis, hypertrophy, atrophy, necrosis, distortion, dislocation, or fracture be left in the wake, he is best prepared to carry out or suggest treatment. It has been said one may be an operator and not a surgeon, but a surgeon is both. One who is skilled in operating and is not an analytical diagnostician should be

leased to the latter, or enter other fields of labor, for his knife is far more dangerous than that of the diagnostician. The ideal is a diagnostician, therapist, and surgeon. The so-called internal medicine man and the surgeon take in the whole field of our professional work; others have taken a small section, side-stepped and by close application (some) have become more efficient in surgical manipulation and possibly medication in some instances than those not limited. Do not understand me to advocate the doctrine that all physicians should do everything brought to them. One who does not know when the tension of an eye is normal, plus or minus, has no right to prescribe for that eye, neither should he prescribe for an ear unless he is familiar with normal color and tension of the drum. If we have not studied the normal nose, septum, turbinates, and their relations to each other then keep out. I have been told a man cannot be informed upon all those branches which are simply component parts of the whole. The average man deceives himself in the thought that he cannot master it. Could all people of this community who when babes were given oil, paregoric, sage tea, and carried about by different members of the family from 8:00 p. m. till sunrise next day on account of colic (supposedly) the good doctor having been with them since midnight, appear in a body and remind us they fell asleep after the most miserable twelve hours of their existence, because an over distended middle-ear, from an acute infection, had ruptured the membrana tympani giving a measure of relief, we would blush with shame. Could we excuse ourselves because we were not specialists? Positively no. Can an internal medicine man keep half a dozen specialists with him for emergencies? Then what should he do? Stand erect, master the anatomical scientific, and practical elements of our profession and hurl defiance at the posers who either lack the energy or ability to do a thing so essential.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY—

Annual Meeting, June 25, 1913.

The annual meeting was held June 25, 1913, with the president, Dr. Jacob Frank, in the chair. The various committees rendered their reports and the new officers were installed: Dr. Charles P. Caldwell, president; Dr. James A. Clark, president-elect; Dr. Charles H. Parkes, secretary; and John S. Nagel, treasurer.

Meeting of Alienists and Neurologists.

*Under the Auspices of the Chicago Medical Society,
June 23-25, 1913.*

DR. HAROLD MOYER, chairman.

DR. W. T. MEFFORD, secretary.

PROGRAM

Address by the Chairman.

DR. HAROLD N. MOYER

Welcome Address by the President of the Chicago Medical Society.

DR. JACOB FRANK

Introductory Address. DR. L. HARRISON METTLER

1. Degeneration Most Common to Alcoholism and Inebriety. DR. T. D. CROTHERS, Hartford, Conn.
2. Acute Alcoholic Insanity.

DR. W. F. LORENZ, Mendota, Wis.

3. The Causes of Acquired Insanity.
4. Hydrotherapy in the Treatment of the Insane.

DR. J. CHESTON KING, Atlanta, Ga.

5. Obscure Mental Diseases a Menace to Public Safety. DR. ROBERT PERCY SMITH, Seattle, Wash.

MONDAY, 2 P. M.

PROGRAM.

6. Insanity with Special Reference to the Diagnosis and Prognosis of Its Common Forms.

DR. T. B. THROCKMORTON, Des Moines, Iowa

7. Report of a Case of Myxedema Associated with Intoxication Psychosis.

DR. E. F. LEONARD, Jacksonville, Ill.

8. Poliomyelitis.
9. Infantile Cerebral Palsy.

DR. FRANK P. NORBURY, Springfield, Ill.

DR. H. C. HARDT, Lincoln, Ill.

10. Advantage of Field Work in the Study of Mental Defections. DR. A. C. ROGERS, Fairbault, Minn.
11. Surgery in Hospitals for the Insane.

DR. E. M. GREEN, Milledgeville, Ga.

12. Prophylactic Value of Home Training in the Line It Should Take.

DR. H. C. R. NORRISS, Enderlin, N. Dak.

TUESDAY, 10 A. M.

PROGRAM.

13. Dementia Praecox.

DR. B. V. EVANS, Greystone Park, N. J.

14. Deterioration in Dementia Praecox.

DR. CHARLES RICKSHER, Hospital, Ill.

15. Is Dementia Praecox a Toxic Condition?

DR. BAYARD HOLMES, Chicago

16. The Wassermann Test in a Series of Cases of Dementia Praecox.

DR. M. A. BAHR, Indianapolis, Ind.

17. The So-Called Mixed States and Atypical Cases of Manic-Depressive Insanity.

DR. H. DOUGLAS SINGER, Hospital, Ill.

18. Depressed States Apparently Not in the Manic-Depressive Group. DR. S. N. CLARK, Hospital, Ill.

TUESDAY, 2 P. M.

PROGRAM.

19. Ways and Means of Preventing Physical and Moral Degeneracy.

DR. G. M. HILL, Des Moines, Iowa

20. Some Data Gathered in a Study of 269 Murderers.

DR. ROCK SLEYSER, Waupun, Wis.

21. Are Criminals Insane Individuals?

DR. C. H. ANDERSON, Menard, Ill.

22. Constitutional Immorality.

DR. PAUL E. BOWERS, Michigan City, Ind.

23. Epilepsy and the Segregation Plan of Treatment.

DR. D'ORSAY HECHT, Chicago

24. The Proper Care and Sterilization of Mental Defectives. DR. H. M. CARY, Spring City, Pa.
- Introducing Resolutions.

WEDNESDAY, 10 A. M.

PROGRAM.

25. Presenile Psychoses.

DR. E. Z. LEVITAN, Peoria, Ill.

26. Traumatic Psychoses.

DR. JOHN H. RHEIN, Philadelphia

27. Paranoia. DR. CHARLES READ, Kankakee, Ill.

28. The Need of Some Systematic Method to Determine the Mental Integrity of Employees of Railroads and Other Transportation Companies.

DR. THEO. DILLER, Pittsburgh, Pa.

29. X-Ray and Study of Vessels.

DR. A. G. WITTMAN, Elgin, Ill.

30. The Psychological Clinic as a Eugenic Agency.

DR. C. H. TOWN, Lincoln, Ill.

WEDNESDAY, 2 P. M.

PROGRAM.

31. The Progress of Histopathology of the Cortex in Mental Diseases.

DR. HENRY C. COTTON, Trenton, N. J.

32. The Effect of Syphilis on the Central Nervous System Viewed in the Light of Recent Research.

DR. ALBERT E. STERNE, Indianapolis, Ind.

33. Medical Efficiency in the Care of the Insane.

DR. A. M. BARRETT, Ann Arbor, Mich.

34. The Aims of the Psychiatric Clinic.

DR. ADOLPH MEYER, Baltimore

35. Forty Years' Experience in Construction and Administration for the Insane in the Middle West.

DR. RICHARD DEWEY, Wauwatosa, Wis.

36. The So-Called Psychopathic Hospital and What It Is Accomplishing in the Treatment and Supervision of the Insane.

DR. M. N. VOLDENG, Cherokee, Iowa

WEDNESDAY, 8:30 P. M.

PROGRAM.

37. General Paralysis in the Negro.

DR. F. M. BARNES, JR., Washington, D. C.

38. The Diagnosis of Feeble-Mindedness.

DR. HENRY H. GODDARD, Vineland, N. J.

39. Some Types of the Feeble-Minded.

DR. C. B. CALDWELL, Lincoln, Ill.

40. Inheritance of Some of the Elements of Hysteria.

DR. C. B. DAVENPORT, Cold Spring Harbor, N. Y.

41. Social Hygiene as an Aid in Preventing Mental Diseases. DR. WILLIAM HOUSE, Portland, Ore.

42. Truth and Fiction About Psychotherapy.

DR. TOM A. WILLIAMS, Washington, D. C.

43. Insanity with Cerebral Disease.

DR. H. P. SIGHTS, Hopkinsville, Ky.

44. The Interpretation of Dreams Based on Various Motives. DR. MEYER SOLOMON, Chicago

CRAWFORD COUNTY

The Crawford County Medical Society met in regular session at the M. E. Church in Palestine, Ill., Sept. 11, 1913. The president being absent the meeting was called to order by Vice-President I. L. Firebaugh, at 2:00 p. m.

The following physicians were present: I. L. Firebaugh, C. E. Price, H. N. Rafferty, C. H. Voorheis, Charles Davis, A. Lyman Lowe, J. E. Midgett, O. G. Taylor, G. A. Martin, L. R. Illyes, Roy Newlin, Dr. Thompson and Dr. Zeigler.

The minutes of the previous meeting were read and approved. On motion the secretary was instructed to send a synopsis of each meeting to the state society for publication in the *ILLINOIS MEDICAL JOURNAL*.

A very interesting paper on "Typhoid Fever," was read by Dr. J. E. Midgett. The paper was a timely one and brought forth some very interesting points in the management and treatment of the disease. The paper was fully discussed, each member present taking a part in the discussion, with Dr. Midgett closing the discussion.

Dr. C. H. Voorheis reported a case of "Infantile Cretinism" in a child about three years of age with presentation of the child and giving a complete history of the case from the time the child was one year old until the present time. This case had been treated for about two years continually with thyroid extract and had also had two thyroid grafts implanted during the time of treatment. Dr. Voorheis had watched the case very closely from its earliest history and considered the case was making marked improvements under the thyroid treatment. The society voted thanks to Dr. Voorheis for the presentation of the case and also the mother and child for appearing before the society.

The physicians of Palestine very generously invited the society to a chicken supper at the Caley Hotel, and the meeting adjourned and partook of the supper, having an enjoyable time and feeling that they had been well paid for their attendance at the meeting.

LE ROY NEWLIN, Secretary.

IROQUOIS-FORD BI-COUNTY.

The physicians of Iroquois and Ford counties, members of the Bi-County Medical Society, with their wives and friends, on the evening of September 2, united in honoring one of their oldest and most faithful members, Dr. S. M. Wylie of Paxton, at the annual banquet of the society given at the opera house in Gilman, Ill. The banquet, served by the ladies of the Rebekah Lodge, was one of the most elaborate affairs ever given by the society, and it was enjoyed by a very large representation. During the banquet music was furnished by the Piper City orchestra.

At the close of the banquet, Dr. E. E. Hester, president of the society, introduced Dr. Geo. A. Nash of Gibson City, who responded to the toast, "The Physician's Wife," giving her much praise for the success the doctor may attain because of her influence as companion, counsellor and friend in his busy life. He

said that the old adage, "Whosoever findeth a good wife, findeth a good thing," is certainly true and will do him no evil.

The toast, "The Family Physician," received careful attention in the response given by Dr. N. T. Stevens of Clifton, who spoke of him as "Humanity's most faithful and also many times, sadly unappreciated friend." Dr. Stevens said in part: "Excellence of character and honesty of purpose go a long way in life and talent may not be trusted unless it is based on truthfulness. Intellect does not tell as much as character. Under all circumstances and conditions, character should stand out as a leading factor in the case of the family physician. Clever trickery on the part of the doctor may be covered up only for a time, and trusting him is a privilege which the patient deserves. In the practice of medicine hypocrisy creates ridicule, and the physician should stay within the bounds of his qualifications.

"Our Brother Physician" was responded to by Dr. D. W. Miller of Gilman. He said, "It is the duty of every physician to be cordial and pleasant with a brother physician, for it is the sting and humiliation of unkind actions in a professional way which bring the gray hairs and wrinkles to the man who has been treated in this manner." Dr. Miller said he had known Dr. Wylie for 33 years and did not know of one occasion where he had ever broken this code of ethics. It is this trait which has made for him so many friends and won for him the success which he has enjoyed.

Dr. S. M. Wylie of Paxton, the guest of honor, responded at this time and expressed his deep appreciation of the honors which had been bestowed upon him. He said, "Thirty-five years of professional life is a short period in retrospect, and yet within those years, Time, the tomb builder, has buried many of our professional theories and practices, covered them over with dust and written over them 'oblivion.' Retrospect at best is but a vantage ground from which to measure progress. The ashes of our camp fires along the journey show us where we pitched out tents yesterday, or last year, and mark the distance we have since advanced on the onward march. We are going to camp tomorrow and next year, but how we will meet the duties of the day is of vastly more importance to us tonight. To have personally known and worked under the inspiration of Billroth, Von Bergman, Lord Lister, Lawson Tait, Sir Spencer Wells, Mickulicz, Sir William McCormack, Koenig and Senn and that host of immortals in medicine and surgery, who blazed the trails we are following today, to me has been a rare privilege and a pleasant memory, and yet I wish I could journey with you for the next twenty-five years and witness the wonderful life saving discoveries that you of the younger generation will see grow out of the labors the generation just past have bequeathed to us. There never was a time in the history of the world when great practical principles and discoveries for saving human life and mitigating human suffering have followed each other in such rapid succession as today,

and yet today's discoveries are only a faint promise of future possibilities."

The last toast, "The Brother I'll Never Know," by J. L. Shawl was as follows:

"Here is a toast I want to drink
To the brother I'll never know,
To the brother who's going to take my place
When it's time for me to go.
I've wondered what kind of a chap he'll be,
And I wish I could take his hand,
Just to whisper, 'I wish you well, my brother,'
In a way he'd understand;
I'd like to give him the cheering word
That I've longed at times to hear;
I'd like to give him the warm hand clasp
Whenever a friend seemed near.
I've learned my knowledge by sheer hard work,
And I wish I could pass it on
To the fellow who'll come to take my place
Some day when I am gone.
Will he see all the sad mistakes I've made
And note all the battles lost?
Will he ever guess the tears they caused
Or the heartaches which they cost?
Will he gaze through failures and fruitless toil
To the underlying plan,
And catch a glimpse of the real intent
And the heart of the vanquished man?
I dare to hope he may pass some day
As he toils as I have wrought,
And gain some strength for this weary task
From the battles I have fought.
But I've only the task itself to leave
With the cares for him to face,
And never a cheering word may speak
To the fellow who'll take my place.
Then here's to your health, old chap,
I drink as a bridegroom to his bride,
I leave an unfinished task to you,
But God knows how I've tried.
I've dreamed my dreams as all men do,
But never a one came true,
And my prayer tonight is that all the dreams
May be realized by you.
And we'll meet some day in the Great Unknown
Out in the realm of space;
You'll know my clasp as I take your hand
And gaze in your tired face.
Then all our failures will be success
In the light of the new found dawn,
So I'm drinking your health, old chap,
Who'll take my place when I'm gone."

This was followed by expressions of appreciation of the friendship and brotherly feeling toward Brother Wylie by other members of the society. Then the company swung into the dance to the strains of music that would not let a lover of music keep his chair. At a late hour the company departed for their homes with light hearts and cherry "Good-nights," feeling they had been repaid for the many miles traveled to pay tribute to the member they have all learned to respect and honor.

J. L. SHAWL, Secretary.

LAKE COUNTY

On September 5 ten members of our society attended the annual meeting of the Second District Medical Society of Wisconsin, which was held at the Country Club in Racine.

After a very enjoyable banquet there were responses to a number of toasts. Dr. Tombaugh replying for our society in his usual interesting and pleasing way. Dr. Abt of Chicago, the well-known specialist in pediatrics, gave a very interesting and instructive talk upon the "Nutritional Disorders of Infancy," giving a short history from the earliest times, speaking especially of the teachings of Czerny and Finkelstein.

The fall meeting of the Lake County Medical Society was held at Wauconda, Sept. 10. After a short ball game, the members and quite a number of school children met in the town hall, where Dr. Watterson gave a demonstration of a large number of specimens of tuberculous meat.

An excellent supper was served at the Oakland Hotel, to which we all did full justice.

Soon afterwards we assembled again in the town hall with fully 100 farmers and dairymen, and their wives and children present.

After a short business meeting and the election of Dr. A. H. Waddington of Lake Zurich as a member, Dr. Watterson gave another demonstration of the specimens of tuberculous meat for the benefit of all present, and read a very interesting paper on "Tuberculosis in Cattle," the measures that should be taken to prevent its spread, and to prevent infection of the milk.

Dr. Foley, Health Commissioner of Waukegan was on the program for a paper on the milk question "from the farmers' standpoint," but in his absence the paper was read by the secretary. He gave the farmers and dairymen some excellent advice along the lines of cleanliness and furnishing good milk for the public use.

Prof. Kent, President of the Village Board, also gave a very interesting and instructive talk, after which there was a short discussion. The audience then gave the society a unanimous vote of thanks.

The physicians present were: Dr. Tombaugh, who presided over the meeting in the absence of the president and vice-president. Drs. Fuller, McCormick, Watterson, Waddington, Rossdentscher, of Volo; Schirding, of Palatine; Meyer, of Des Plaines, and the secretary. Drs. Galloway, Smith, Withers and Wright attended the supper.

The next meeting will probably be held in Waukegan in January.

W. C. BOUTON, Secretary.

MADISON COUNTY

The Madison County Medical Society met under a large elm tree on the grounds of the Harrison Tuberculosis Tent Colony at Collinsville, Aug. 1, 1913, with Vice-President E. A. Cook in the chair. Members present: Drs. Barnsback, Dorr, Wharff, Cook, Kaeser, Schmidt, Burroughs, Sutter, W. H. C. Smith, Schroepel, Ferguson, Hastings, Harrison, E. F. Fischer, Siegel, Armbruster, Hirsch, Spitz, Zoller, Braner and E.

W. Fiegenbaum. Visitors: Drs. O. H. Brown and E. Bonnett, St. Louis; Dr. T. Van Boyd, East St. Louis, and Dr. W. S. Harrison, Collinsville.

The speaker of the day, Dr. O. H. Brown of St. Louis, presented an address on "Diet in Fevers," in which he laid great stress on increasing the carbohydrates in the diet given to all fever patients, especially in typhoid fever. The address was well received and ably discussed by Dr. Kaeser of Highland, Dr. Hirsch of Edwardsville, and others. Altogether this meeting was very interesting and instructive and was enjoyed by all present. A very substantial lunch was served *al fresco* by Dr. and Mrs. Harrison and on motion of Dr. Hastings a vote of thanks was tendered them for their gracious hospitality. On motion of Dr. Kaeser a vote of thanks was given to Dr. Brown for his visit and instructive lecture. On motion the society adjourned to meet in Edwardsville on the first Friday in September.

E. W. FIEGENBAUM, Secretary.

MONTGOMERY COUNTY

Owing to rain, the date of the Raymond meeting was changed to August 22. In the absence of both president and vice-president, Dr. Z. V. Kimball was selected as the presiding officer. The following were in attendance: Z. V. Kimball, M. L. Moyer, J. R. Seymour, H. A. Seymour, J. R. Kenton, W. H. Mercer, W. B. Kilton, R. W. Allen, W. W. Douglass, I. O. Wilcox, M. W. Snell, L. S. Brown, C. H. Lockhart, W. I. Burns and H. F. Bennett.

Dr. J. R. Kenton gave a most interesting talk upon his post-graduate course at Johns Hopkins University Hospital this summer. Dr. Kenton is a critical observer and is gifted in expressing his observations. His summer's work was not only an inspiration to him but his enthusiasm to do better work infected all who listened to his talk.

He appropriately suggests that our society work can be improved by paying more attention to clinical work, not the work of some eminent visitor but our own clinical methods.

MORGAN AND CASS COUNTIES

Thursday, Aug. 14 the members of the Cass and Morgan county medical societies and their families and neighbors met with Dr. and Mrs. Carl E. Black at their county home, "Walnut Grove," near Little Indian, for their second joint meeting, which was in the form of a basket picnic.

The baskets were opened and arranged upon the cool spacious porch of the bungalow and the picnic dinner was much enjoyed. After dinner a group picture was made by Robert Reid and the company adjourned to the meeting tent, where Dr. A. J. Ogram, vice-president of the Morgan County Medical Society, presided, Dr. J. A. Magee of Virginia acting as secretary.

After the minutes of the first joint meeting at the same place last year had been read and approved, Dr. Ogram introduced Capt. Guy V. Rukke, M. C., U. S. A., from Jefferson Barracks, St. Louis, Mo., who presented in a very graphic way the achievements that the army

surgeons have made in the prevention of typhoid fever by vaccination. This vaccination means a great deal to any community from a public health standpoint and practically every physician present took part in the discussion which was ably introduced by Dr. J. G. Franken of Chandlerville.

Following the discussion of the paper resolutions of thanks to Capt. Rukke for his paper and Dr. and Mrs. Black for the hospitality of "Walnut Grove" were unanimously passed. About seventy persons were in attendance.

ROCK ISLAND COUNTY

Rock Island County Medical Society met in regular session at Rock Island Club, Rock Island, on Tuesday evening, August 12, 1913. The business session was short and routine. The scientific program was heard by twenty-seven members and two visitors. Dr. A. J. Miller gave a partial "Report of a Case of Exophthalmic Goitre," occurring in a five-year-old child. Dr. J. E. Asay read a paper on "Tuberculosis of the Nose and Throat"; Dr. C. J. Whalen of Chicago, president of the Illinois State Medical Society, expounded "Recent Diagnostic and Treatment Methods in Tuberculosis"; Dr. Peter Bassoe of Chicago, delivered a lecture covering some of the "Newer Spinal Cord and Brain Operations." Through the enforced absence of the author, the scheduled paper of Dr. W. L. Eddy was deferred. The guests of the evening, Drs. Whalen and Bassoe, were tendered a rising vote of thanks in appreciation of their good-will in accepting our invitations, and for their able contributions. The evening in general partook more of the nature of didactic instruction than of general discussion, and was thoroughly enjoyable and profitable.

W. D. CHAPMAN, Secretary.

WINNEBAGO COUNTY

The Winnebago County Medical Society met at Nelson Hall, Rockford, Ill., Sept. 9, 1913. Dr. Emil Lofgren was in the chair. Members present 17. Minutes of previous meeting were read and approved. The following doctors had just returned from Europe and gave short talks relating to their visit: Drs. J. E. Allaben, W. R. Fringer and H. M. Starkey, all of Rockford. This program was very interesting, especially regarding the visit of the doctors in London at the International Congress of Physicians.

DR. C. M. RANSEEN, Secretary.

News Notes

—A twenty-room addition to the buildings of Beverly Farm, Godfrey, has been completed. This gives the farm a capacity of sixty-five patients.

—The eighteenth annual State Conference of Charities and Correction will be held in Rockford, October 11-14. A. L. Bowen, Springfield, is secretary of the conference.

—The International Congress of Medicine held at the University of London is said to have given the gold medal, the only award in this class, for digestive ferments, to Armour & Co., Chicago.

—The following staff of physicians has been appointed for Mooseheart, the industrial home of the Loyal Order of Moose: Drs. H. A. Brenneke and George A. Darmer. A building for the hospital is now under construction and work on the permanent building will be started this fall.

—The Washington Boulevard Association is erecting a five-story building at Washington Boulevard and North Campbell avenue to cost about \$100,000. The building is to cover a ground area of 126x70 feet. Dr. Albert I. Bouffleur is chief surgeon of the association.

—The Champaign County Anti-Tuberculosis Health League has established a dispensary in the Imperial Building, for tuberculosis only. The dispensary will be in charge of physicians of Champaign and Urbana, and patients will be received between 1 and 2 p. m., on Monday, Wednesday and Friday.

—Dr. F. J. Lutz, professor of surgery at Washington University, St. Louis, Mo., gave a Chautauqua address at Jacksonville, August 28, on "The Cancer Problem." The instructive talk was graphically aided by good stereopticon pictures. Within ten days two breast cases presented themselves to local surgeons as a direct result of the lecture. Previous to the lecture Dr. Lutz was entertained at a basket picnic dinner by the members of the Morgan County Medical Society and their families.

—The State Charities Commission, in its annual report, urges the establishment in large centers of population of psychopathic hospitals for the care and treatment of the acute varieties of insanity, at which the commitment will be purely voluntary. It favors making the present state hospital into colonies for strictly chronic cases. It recommends that the first psychopathic hospital shall be established in Cook County. The commission urges that the study of psychiatry be made compulsory in all medical schools so that every person who enters the practice of medicine may have at least elementary knowledge regarding nervous and mental affections. A children's bureau, having broad power to deal with the dependent and delinquent classes, is also recommended by the commission.

—The following appointments to the faculty of the University of Illinois were announced by the president, August 26: Dr. Albert C. Eycleshymer, St. Louis, professor of anatomy and head of the department of anatomy of the medical school; Dr. Richard Rupert, Chicago, instructor of anatomy; Dr. George P. Dreyer, Chicago, professor of physiology and head of the department of physiology, school of medicine; Dr. Bernard Fantus, Chicago, professor of pharmacology; Dr. Edgar Grim Miller, Columbia, Pa.; Dr. J. Craig Small, Chambersburg, Pa., and Dr. H. N. Walker, Harrisburg, Pa., assistant professors of physiologic chemistry; Dr. Edgar D. Coolidge, Chicago, professor of materia medica and therapeutics; and Dr. Louis Schultz, Chicago, assistant professor of oral surgery and pathology.

Personals

Dr. S. V. Balderston, health commissioner of Evanston, has resigned.

Dr. Perry H. Wessels, Jr., has been reappointed city physician of Moline.

Dr. J. Leslie, Elwin, celebrated his seventy-fifth birthday anniversary September 1.

Dr. John P. Benson, Joliet, has been appointed physician at the State Penitentiary.

Dr. Paul Sherman, Shawneetown, has been appointed inspector of the State Board of Health.

Dr. Joseph M. Campbell, Marissa, has been appointed superintendent of the Watertown State Hospital.

Dr. E. H. Butterfield, Ottawa, for sixteen years county physician, announces his retirement from the practice of medicine.

Dr. Joseph Cooperstein, Chicago, has been appointed assistant physician at the Chester State Hospital, vice Dr. William Hersio.

Dr. Truman W. Brophy has been decorated by the French Minister of Public Instruction on account of his work on oral surgery.

Dr. and Mrs. W. Grant Hatch, Rockford; Dr. and Mrs. John A. Koch, Quincy, and Dr. G. F. Tyson, Evanston, have sailed for Europe.

Dr. E. W. Fell, Jacksonville, has been appointed assistant physician at the Elgin State Hospital, vice Dr. E. J. Kelloch, resigned.

Dr. Russell V. Thomas has been appointed local surgeon for the Illinois Central Railroad at Manteno vice Dr. Zephrita Rouleau, deceased.

Dr. Anna Dwyer, Chicago, has been appointed a member of the State Charities Commission, vice Dr. John T. McAnally, Carbondale, resigned.

Dr. W. K. McLaughlin has given up his practice in Jacksonville and moved to Chicago to become superintendent of the Chicago Hospital.

Dr. Edward Cunat, 556 W. 18th street, Chicago, has purchased a pulmotor, said to be the first privately owned one in the city or state.

Dr. C. O. Molz, Murphysboro, sustained a fracture of the left shoulder and injuries of the hip by the overturning of his automobile, August 31.

Dr. G. W. Torrey was exonerated by a coroner's jury September 9 after inquiries into the death of Mrs. Elizabeth Bird, who was struck by Dr. Torrey's automobile, September 3.

Dr. J. S. Mason has been elected president, Dr. A. Darwin Kirby, vice-president and Dr. W. M. Honn, secretary of the medical staff of the Julia F. Burnham Hospital, Champaign.

Dr. B. G. R. Williams, Paris, announces that his practice is limited to diagnosis and differentiation of disease by physical and analytical methods and to diagnostic consultation work.

Dr. Isaac C. Frisch, a member of the staff of the Chicago State Hospital, Dunning, has been transferred by the state to the Chester Hospital, Menard, succeeding Dr. William H. Hercik.

Dr. O. B. Edmonson of Clinton, Ill., was operated on for appendicitis September 10 by Drs. Collins and Weber of Peoria, at the John Warner Hospital in Clinton, and is making a good recovery.

Dr. T. McLain, assistant physician at the Peoria State Hospital, has been transferred to the Jacksonville State Hospital, vice Dr. Walter Treadway, resigned, to enter the U. S. P. H. Service.

Dr. George B. Young, commissioner of health, has been placed in charge of the new city garbage reduction plant to be acquired from the Chicago Reduction Company under the ordinance recently passed.

Drs. Thomas G. McLin, Charles R. Lowe and Edward J. Strickler have been added to the staff of the Jacksonville State Hospital to take the places of Drs. F. E. Munch, Walter L. Treadway and Edward F. Leonard, resigned.

Dr. Arthur M. Corwin has resigned from the department of laryngology and rhinology in the

medical department of the University of Illinois, after thirteen years of continuous service as a member of the faculty, formerly as Professor of Physical Diagnosis and laterly Assistant Clinical Professor of Laryngology and Rhinology.

Dr. and Mrs. J. B. Murphy, Dr. and Mrs. T. J. O'Malley, Dr. C. A. Leenheer, Dr. and Mrs. Casius C. Rogers, all of Chicago; Drs. George W. Kreider and L. C. Taylor, Springfield; Dr. John E. Allaben, Rockford; Dr. and Mrs. Walter Hoffman, Mount Morris; Dr. and Mrs. Otis Trotter and daughter, Quincy, and Dr. J. F. Percy, Galesburg, have returned from abroad.

Removals

DR. A. W. DAGGETT has removed from Mulkeytown to Du Quoin.

DR. A. T. BOTTS has removed from Warrensburg to 1364 North Church street, Decatur.

DRS. J. T. REA and ALBERTINE L. REA, of Beverly, have removed to Warrensburg.

Incorporations

Not for profit:

Chicago Memorial foundation; to purchase, own and maintain hospitals, colleges and universities; to teach medicine and surgery; to engage in medical researches; public benefit and education; Edwin M. Ashcraft, R. M. Ashcraft, H. S.

Marriages

WARREN GARFIELD MURRAY, M.D., to Miss Marion Louise Macfarlane, both of Kankakee, Ill., August 31.

WILLIAM K. FARLEY, M.D., Fulton, Ill., to Miss Sarah Sturges, at Dixon, Ill., August 16.

NAZARETH A. JERIJIAN, M.D., to Miss Semagule Doodakyan, both of Chicago, August 30.

Public Health

The U. S. Department of Agriculture, through the Bureau of Chemistry, Sept. 14, 1913, issued the following warning to the public in regard to the so-called radioactive mineral waters offered for sale in bottles.

There are indications of the beginning of an attempt to perpetuate a great fraud on the Amer-

ican people through advertising certain mineral waters as possessing radioactivity. These waters, in some cases, are taken from springs the waters of which as they come from the ground do possess certain radioactive properties. Examination of many of these waters by the department's specialists indicate that whatever radioactivity they possess at the spring is due almost entirely to radium emanation rather than to the presence in the water of any substance possessing radioactivity. These emanations in the form of gas quickly disappear from the water and as a result, after the water has been bottled a short time, it will possess practically no radioactivity. The belief long held by many people that some mineral waters used at the springs are more effective than when bottled has been explained by some authorities on the ground that the beneficial effect of these waters is due to radioactivity. As the radioactivity disappears soon after the water is taken from the spring, any effect due to the radioactivity must be lost in a short time. If the radioactivity of a water in a spring is 100, four days after bottling it will be only 50 and twelve days after bottling 10. In a month it will be practically nothing compared with the original radioactivity of the water at the spring. The public, therefore, is warned to regard with suspicion any water advertised as possessing radioactivity. As far as the government's specialists have been able to ascertain, no bottled water, no matter how radioactive it may have been at the spring, retains this radioactivity for any length of time.

The department is now investigating a number of the so-called radioactive waters with the object of securing evidence that can be made a basis of prosecution for misbranding. In the past before the Food and Drugs Act was enacted, a number of mineral waters made claim to curative properties which they did not possess and succeeded in creating a misplaced confidence on the part of the consumers. This was particularly true of a number of imported waters which were sold extensively in the United States with a statement on the bottle that they were wonderful or magical cures for all sorts of incurable or chronic ailments. The Treasury Department, acting in co-operation with the Department of Agriculture, now refuses admission to the country of foreign waters labeled so as to mislead consumers as to their real or curative properties. The department

fears that unless the public is warned that the fraudulent trade in so-called radioactive waters will develop, just as the fraudulent trade in other mineral waters was developed to the point where people with strong imaginations will supply their bottlers with all sorts of testimonials asserting that these supposed radioactive waters have effected wonderful cures.

—The Missouri law prohibiting cellar homes which went into effect September 15 last, shows an enlightened understanding of sanitary requirements on the part of those who were responsible for its enactment. There are too many people living in Chicago and even in some of the smaller cities of Illinois in dark, damp, ill-ventilated rooms that should never be allowed to house anyone. The trouble is partly structural, due to faulty requirements or enforcement of the building ordinances, partly chargeable to poverty, ignorance, greed and dirt, in the case of families crowded into insanitary quarters. The time is not far away when some comprehensive method of providing decent and sanitary homes for the laboring classes must be undertaken by our cities to prevent racial deterioration such as has dwarfed many of our immigrants from eastern Europe. Berlin, London, Liverpool and New York have met similar or worse conditions of congestion, each in its own way, but generally by the construction of "model tenements," which not only provided sanitary quarters for many families directly, but demonstrated to capitalists and philanthropists how they also could invest money that would be a public benefaction and still pay a reasonable interest. In London great slum districts covering blocks were razed, new streets laid out and built up with modern tenements. Suburban villages have also been constructed to meet the requirements of city workmen, and where transportation is rapid this is one of the most promising ways of combating city congestion. All such plans, however, imply a decent living wage and thus the whole question of sanitary housing is tied firmly to the still greater question of the relations of capital and labor.

—The United States Department of Agriculture has established a publicity department or "Office of Information" to disseminate information which we will quote freely whenever it seems to be of interest to our readers. We note two

convictions under the pure food law: 1. A New York firm was fined for shipping into Missouri a "Coal Tar Yellow Color—Macaroni Shade," said to contain arsenic. 2. An Indianapolis firm was fined for shipping "Celery-Visce," labeled harmless, containing 4 per cent acetphenetidin.

—Beginning this fall Harvard University and the Massachusetts Institute of Technology are to maintain in co-operation a School for Public Health Officers. The facilities of both institutions are to be available to students in the school and the certificate of public health (C. P. H.) is to be signed by both President Lowell and President MacLaurin.

The object of this school is to prepare young men for public health work, especially, to fit them to occupy administrative and executive positions such as health officers or members of boards of health, as well as secretaries, agents, and inspectors of health organizations.

It is recognized that the requirements for public health service are broad and complicated, and that the country needs leaders in every community, fitted to guide and instruct the people on all questions relating to the public health. To this end, the instruction of the new school will be on the broadest lines. It will be given by lectures, laboratory work, and other forms of instruction offered by both institutions, and also by special instructors from national, state, and local health agencies.

The requirements for admission are such that graduates of colleges, or technical and scientific schools, who have received adequate instruction in physics, chemistry, biology, and French or German, may be admitted to the school. The medical degree is not in any way a pre-requisite for admission, although the administrative board strongly urges men who intend to specialize in public health work to take the degree of M.D. before they become members of the School for Health Officers.

The administrative board which will conduct the new school is composed of Professor William T. Sedgwick, of the Massachusetts Institute of Technology; Professor Milton J. Rosenau, of Harvard, and Professor George C. Whipple, of Harvard. Professor Rosenau of Harvard has the title of director, and the work of the school will be under his immediate supervision.

—Victor G. Heiser, Surgeon, U. S. Public Health Service, Chief Quarantine Officer and Director of Health for the Philippine Islands, in the *Public Health Report* for Sept. 5, 1913, issued the following note regard the apparent cure of two lepers in Manila:

Two patients who had been confined to the San Lazaro Leper Hospital on account of leprosy have been pronounced apparently cured and discharged from that institution on probation.

The first case was that of a male Filipino, aged 27, who was admitted to the San Lazaro Leper Hospital, Manila, May 29, 1909. On admission the case clinically showed thickened reddish spots on the nose and thickening and discoloration of the lobe of the right ear. Scrapings made from the lesions showed lepra bacilli. He received vaccine treatment at intervals, beginning August, 1909, but at the expiration of one year no change was noted in his condition. From September, 1910, to November, 1910, crude chaulmugra oil was given by mouth in increasing doses. On account of nausea the administration of the oil by mouth had to be discontinued.

The case showed evidences of improvement. On November 10, 1910, chaulmugra oil combined with oil of camphor and resorcin was given hypodermically. By May 6, 1911, the lesions above described had disappeared and leprosy bacilli were not found in repeated microscopical examinations. The hypodermic treatment was continued and microscopical examinations were made at frequent intervals, but these were always negative. On June 11, 1913, a most careful clinical and microscopical examination was made of the patient, which resulted negatively for leprosy, and as the patient had now been apparently cured for a period of over two years he was discharged on probation.

The other case was that of a Filipino woman, aged 22, who was admitted to San Lazaro Leper Hospital, Manila, January 7, 1910. Clinically this patient presented a suffused countenance due to generalized infiltration. There were red macules over the cheeks, forehead and chin. Scrapings made from the lesions and examined microscopically were positive for leprosy bacilli.

Upon admission this patient was placed upon the vaccine treatment for a period of five months, but at the end of the first month after her admission crude chaulmugra oil by mouth was given in addition to the vaccine.

After the second month the patient began to improve rapidly, and on May 6, 1911, leprosy bacilli could not be found on microscopical examination. During May, 1911, on account of the nausea caused by the oil its use by mouth had to be discontinued. Hypodermic injection of chaulmugra oil combined with camphor and resorcin was then begun. This treatment was continued, and frequent microscopical examinations were made from time to time, all of which resulted negatively. The last examination, both clinical and microscopical, was made on June 11, 1913, when no further evidences of leprosy could be found. The patient was therefore discharged from the hospital on probation.

It is not known whether the vaccine treatment had any influence in the cures. There are at the present time a number of other cases at the San Lazaro Leper Hospital that have been negative for a period of 22 months, which, upon admission, presented more marked evidences of leprosy than the cases mentioned above, yet they received only chaulmugra oil either by mouth or hypodermically, or in both ways.

—The following instructions for persons exposed to industrial diseases, especially lead, are taken from a circular issued by the medical clinic, Cornell University Medical College, Out-Patient Department:

General Information.

1. Dusty occupations cause colds and infections, irritate the nose and throat, and weaken you.
2. Fumes cause thin, poor blood, weak muscles, indigestion, and weak hearts.
3. All workers exposed to dust and fumes should have good ventilation, open windows, and protective devices as exhaust fans, hoods and blowers.

Metal Poisons, Chiefly Lead.

1. Lead causes more poor health among workmen than any other metal: leads to indigestion and "colic," chronic disease of heart, blood vessels and kidneys, and paralysis of the hands—"wrist drop."
2. Young adults are easily poisoned by lead. Young women often get the worst forms of it.
3. Lead acts slowly and silently by constant exposure, and causes illness without the workman's knowledge of his danger. He must, therefore, be most careful.

4. Lead enters the system through the nose, mouth, and skin; that is, it may be inhaled as dust, in fumes, swallowed with food and saliva (especially if tobacco or gum is chewed) and absorbed by the skin.

5. In New York City those trades that especially expose the workers to lead poisoning are: White and red lead manufacture, painters, plumbers, typesetters, file makers, storage battery makers, metal hardeners and polishers.

Rules for Prevention of Lead Poisoning Outside the Factory.

1. Keep general health always good by plenty of light, good food and fresh air in the home. Sleep at least eight hours every night.
2. Personal cleanliness must be had. Wash with warm water and soap daily, always before eating, and at least one full hot bath a week. Remove all dirt from under finger nails.
3. Never chew tobacco or gum when working. The lead dust on fingers is sure to be swallowed.
4. Don't drink liquor of any kind. Alcoholic intemperance causes attacks of lead poisoning, weakens the kidneys, and causes paralysis.
5. Never eat when you can avoid it in same room you work in.
6. Always eat a good breakfast before going to work, especially drink milk.
7. Do not wear same clothing on street or at home that you work in. Use overalls.
8. Have at least one good bowel movement every day.
9. Exercise in the fresh air. Live, when possible, some distance from work and walk both ways.
10. Take good care of teeth and gums. A decayed tooth favors lead symptoms. See your physician before going to work in lead factory, and at frequent intervals thereafter—at least once a month.

J. Stanley Kenney, M.D., in Medical Record.

The words "sanitation" and "hygiene" mean little more than cleanliness. Cleanliness will eradicate the fly; it will eradicate the typhoid germ, the tuberculosis germ and the small-pox germ as well. It is probable that perfect cleanliness would eliminate most of the physical ills known to the human race. It is also probable that it would eliminate many of the economic ills—for cleanliness leads to order and order means system and success.

Milk at a temperature between 60° and 100° Fahr. is a perfect medium for the culture of bacterial life. Kept at such a temperature for a few hours, ordinary market milk becomes totally unfit for human consumption—it becomes a better food for hogs than for humans.

One of the very important provisions of the amended milk ordinance of Chicago (passed August 14, 1912) is that milk to be sold in this city must be cooled immediately after taken from the cow and thereafter, from cow to consumer, kept at a temperature below 60° Fahr.

On August 6, 1913, nearly one year after the amended ordinance was passed and all milk producers and handlers had notice of its provisions and ample time to effect arrangements to comply therewith, a general temperature test was conducted by the Health Department to ascertain to what extent the cooling provisions of the ordinance were being observed. Tests were made simultaneously at bottling plants in the country and at receiving platforms in the city.

Nineteen bottling plants located in all sections of the Chicago dairying zone in Illinois, Wisconsin and Indiana were selected for the country tests. In all, 1,811 cans of milk, representing the delivery of 1,244 farmers, were subjected to temperature tests. Ninety-one and one-half per cent. (91.5 per cent.) of the milk tested was found to be of illegal temperature, only 154 cans out of 1,811 registering a temperature of 60° Fahr. or below. Milk in 1,342 cans showed temperatures ranging from 61° to 70° and 315 were above 70°. The average of all tests was 64.6° F.

At these bottling plants all of the milk delivered by the farmers, *excepting 8.5 per cent.*, could have been condemned for sale in Chicago. To do so, however, would have resulted in a serious shortage of the city's supply for that day and therefore the policy was adopted to pass all milk showing temperatures under 63° F. and in no case to condemn more than one-fourth of any one producer's supply. Even under this liberal policy 387 eight-gallon cans of milk were condemned at the bottling plants and thrown back on the producers' hands. This was deemed a sufficient warning to all concerned of what may be expected to follow if the cooling provisions of the Chicago milk ordinance are longer ignored.

The temperature tests applied to the milk as it was delivered by the railroads to the city dealers were conducted on the same day as those at the bottling plants in the country and covered the receipts at the city receiving platforms of ten milk-carrying railroads. At these points 266 cans of milk were tested with the following results: 85 per cent. showed temperatures above 60° F.; only 40 cans registering below that mark. Seventeen cans, or 7½ per cent., yielded temperatures above 70° F., some reaching as high as 76°. The average of all platform tests was 65.1°—*higher than the average temperature of milk tested at the bottling plants.* The Baltimore & Ohio Railway's deliveries averaged 71.8°, nearly 12 degrees higher than the law prescribes; the Chicago & Northwestern Railway's deliveries registered an average of 67.5°. On four railroads—the Baltimore & Ohio Ry., Erie Ry., Chicago, Milwaukee & St. Paul Ry. and the Aurora, Elgin & Chicago Electric Ry.—not a single can of milk was found with a temperature as low as 60°, all were of illegal temperature. Seventy-four eight-gallon cans

of milk were condemned at the platforms and returned to the shippers.

—"Preventive medicine" is defined in dictionaries as "that branch of medical science which aims to prevent or ward off disease by properly directed hygiene, personal and public." Hygiene is defined as "the science that treats of the laws of health in its broadest sense." These are vague definitions, but until recent years they were justified by the vagueness of the subjects they sought to define. Applied preventive medicine and hygiene are almost wholly a twentieth century product, and the twentieth century is only twelve—"going on thirteen"—years of age. It is a wise provision of Nature that mountain climbers get out of breath, for in stopping to regain their breath they get their minds off the immediate obstacles to the next step, and their horizon broadens out from the immediate environment of their feet, and they see the splendid view below them as well as the inspiring unexplored heights above. It is so in preventive medicine. Already the backward look over the past twelve years presents a wonderful advance, and promises great advances for the future. The results to be achieved in the prevention of disease so largely depend on the individual cooperation of the citizens that popular education must be one of the chief factors in progress. One of the significant movements of the past five years has been the establishment of welfare departments of industrial enterprises. Competent medical officers are in charge of these departments and are equipped with facilities for examining and advising employees. They also are instructed to prepare and issue brief practical leaflets on foods, room-ventilation, clothing, sleeping porches and all the various subjects of personal hygiene.—*From the Bulletin of the California State Board of Health.*

—The Countess of Aberdeen, president of the International Council of Women, has edited the information secured by the Council on the steps being taken in various countries to prevent the spread of tuberculosis through infection by advanced cases. The plans which can be adopted are divided into: 1. The isolation and treatment in institutions especially suited for advanced cases. 2. Arrangements in the patient's home whereby danger to others is reduced to a minimum. The Council found that only a few authorities (New York City and New Jersey) had compulsory power to isolate dangerous cases. Lady Aberdeen is impressed by the need everywhere of a more complete system of home visitation by trained nurses under the supervision of doctors and care committees.

Deaths

JOHN F. FORD, M.D., College of Physicians and Surgeons, Keokuk, 1883; of Waggoner, Ill.; died at his home after an illness of two years, from carcinoma, Aug. 30, 1913, aged 60.

DR. ELVIS G. NEEL, M.D., American Medical College, Eclectic, St. Louis, 1878; of Litchfield, Ill.; specialist in diseases of the eye; died at his home, Sept. 6, 1913, from pneumonia, aged 75.

SAMUEL G. BAILEY, M.D., Jefferson Medical College; 1844; for more than forty years a practitioner and banker of Chicago; died at his home in that city, June 20, aged 92.

CHARLES H. ZORGER, M.D., Illinois Medical College, Chicago, 1897; a fellow of the American Medical Association; formerly a practitioner of Champaign and later a resident of Bloomington, Ill.; died at the home of his brother in Champaign, August 23, from nephritis, aged 46.

EDWARD G. FORSHEE, M.D., Cincinnati College of Medicine and Surgery, 1864; died in his home at Kimmunity, Ill., July 10, from acute gastritis, aged 78.

FRANCIS ASBURY EMMONS, M.D., Rush Medical College, 1863; Illinois Army Board, 1863; for many a years a member of the Board of Education of Chicago, and at one time physician of Cook County; major and surgeon of volunteers during the Civil War and chief surgeon of Camp Douglas; died at his home in Chicago, August 21, aged 74.

EVERETT E. GORDON, M.D., Homeopathic Medical College of Missouri, St. Louis, 1897; of Cairo, Ill.; was shot and killed by the son of a patient, at the entrance of the drive leading to St. Mary's Hospital, Cairo, September 1, aged 40.

LEMUEL AUSTIN FERRY, M.D., University of Georgetown, Washington, D. C., 1879; formerly a member of the American Medical Association; a member of the Illinois State Medical Society; died at his home in Geneseo, June 14, from heart disease, aged 69.

FREDERICK LLEWELLYN BARTLETT, M.D., Homeopathic Medical College of Missouri, St. Louis, 1868; for 61 years a resident of Aurora, Ill., and once mayor of that city; for ten years a member of the board of directors of the Public Library and for three years its president, and for eighteen years president of the board of education of West Aurora; died at his home August 7, from uremia, aged 69.

STEPHEN CHARLES DE VENY, M.D., University of Pennsylvania, Philadelphia, 1871; a member of the Illinois State Medical Society and a resident of Chicago for more than forty years; died at his home in that city, August 16, from nephritis, aged 68.

IRA N. BARNES, M.D., Jefferson Medical College, 1862; a fellow of the American Medical Association and once president of the Decatur Medi-

cal Society; surgeon of volunteers during the Civil War; a member of the Illinois Army and Navy Medical Association; once a member of the Board of Health of Decatur, Ill.; died at his home, August 16, from cerebral hemorrhage, aged 84.

MARGARET S. MCNIFF, M.D., Hahnemann Medical College, Chicago, 1893; formerly professor of obstetrics in Hering Medical College; died at her home in Chicago, August 21, from heart disease, aged 63.

Book Notices

AN INTRODUCTION TO THE STUDY OF INFECTION AND IMMUNITY. Including Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine, College of Physicians and Surgeons, Baltimore. New (2d) Edition, thoroughly revised. Octavo, 325 pages; illustrated. Cloth, \$3.25, net. Lea & Febiger, publishers, Philadelphia and New York, 1913.

That this book is popular is shown by its running a second edition in less than one year. It covers the field of perhaps the most important medical questions of today. If man can be immunized against all infections, the dawn of a new medical era has arrived, but at the beginning of the dawn many perplexing questions arise, and it is these questions the author so ably discusses.

The great advances made in experimental medicine during the last few years has placed in the physician's hands many new curative as well as diagnostic and prophylactic agents. In the last five years these have come mainly in the guise of antitoxins, serums and vaccines, and today we probably have only a glimpse of what we may expect of the future, as relating to prophylactic and therapeutic medicine. The author brings these questions down to date and discusses them from today's standpoint.

Every up-to-date library should contain a copy of this new work.

SURGICAL CLINICS OF JOHN B. MURPHY, M. D., Volume II., No. 4 (August, 1913). The Surgical Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume II, No. 4 (August, 1913). Octavo of 206 pages, 49 illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Published bi-monthly. Price per year: paper, \$8.00; cloth, \$12.00. W. B. Saunders Company, Philadelphia and London.

This number of Murphy's Clinics is especially interesting. The first article, which is on vaccines and serum therapy, is of great interest and coming now, at the time when these questions are being more discussed than ever, is exceedingly valuable.

Of especial interest in this number is a series of

ten skiagrams, showing the blood supply of the principal joints of the body. These skiagrams are very cleverly done, and add very greatly to the anatomical study of joints.

Several articles on joint surgery are given. Laminectomy in four conditions are described. Several interesting fracture cases are shown with skiagrams.

Appendicitis, vesical calculus, exploratory laparotomy, ankylosis of jaw, ankylosis of knee-joint, etc., are some of the other topics.

ANATOMY, DESCRIPTIVE AND APPLIED. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons; lecturer on Anatomy at St. George's Hospital Medical School, London. New (American) edition, thoroughly revised and re-edited, with the ordinary terminology followed by the Basle anatomical nomenclature, by Edward Anthony Spitzka, M. D., Director of the Daniel Baugh Institute of Anatomy and Professor of General Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1,502 pages, and 1,225 large and elaborate engravings. Cloth, \$6.00, net; leather, \$7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

Another revision of this wonderful work is just from the press. We presume no other medical book has gone through so many editions, and we also presume no other medical book was ever so popular, either with medical students, teachers of anatomy, surgeons, or the practicing physician.

The excellent paper, type and general make-up of the previous editions is here maintained. Many new cuts are presented and are unexcelled. Colored plates are more in evidence and are works of art. The engraving of names of structures directly on the illustrations, is an invaluable aid to the student. This feature, together with the liberal use of colored plates, helps very materially in placing "Gray's Anatomy" at the head of the list.

The terminology ordinarily used is given first place, but the new Basle anatomical nomenclature is added, thus giving the student the latest nomenclature, which will probably become the one universally used. The directions for dissecting are clear and full, and add much to the usefulness of the work. The table of contents and excellent index in the edition add materially to the value of the book as a reference work. Every medical student and every doctor should have a copy of this new edition of Gray's Anatomy.

GENITOURINARY DIAGNOSIS AND THERAPY for Urologists and General Practitioners. By Doctor Ernst Portner, Specialist for Urology, Berlin, Germany, translated by Bransford Lewis, M.D. B.Sc., Professor of Genitourinary Surgery, Medical Department of St. Louis University, St. Louis; Genitourinary Surgeon to St. John's Hospital and Frisco Hospital; member of American Urological Association; American Association of Genitourinary Surgeons; American Medical Association, etc. Forty-three illustrations. St. Louis, C. V. Mosby Company, 1913.

"Genitourinary Diagnosis and Therapy." This little book seems well written for the use of the busy gen-

eral practitioner. It covers a large field but is brief. A large number of formulae are given, and illustrations are fairly good. It seems full of information that is up to date, and is so brief that not much time is consumed in finding the salient points of Genitourinary Therapy. Price, \$2.50.

THE BATTLE CREEK SANITARIUM SYSTEM. By J. H. Kellogg, M.D., Superintendent. Second Edition.

This booklet gives the history and methods of the institution, is profusely illustrated, and gives one an idea of the methods of care as well as of the size of the Sanitarium. It gives the physician a very clear idea of what may be obtained for his patient in the institution, as each of its departments is well described and illustrated. The author states that the booklet is issued especially for the profession.

THE PRACTICAL MEDICINE SERIES. Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume IV. "Gynecology" edited by Emil C. Dudley, A.M., M.D., professor of Gynecology, Northwestern University Medical School; Gynecologist to St. Luke's and Wesley Hospitals, Chicago, and Herbert M. Stowe, M.D., associate in gynecology, Northwestern Medical School; attending obstetrician to Cook County Hospital. Series 1913. Chicago. The Year Book Publishers, 327 S. La Salle Street.

The Practical Medicine Series, Vol. IV. "Gynecology." A single volume of this series is given to the review of this subject, consequently the field is well covered. This volume is of special interest to the general practitioner, as well as to the specialist, because so many gynecological cases first see the general practitioner. It covers the field so thoroughly that it will be a very useful addition to your medical library. It is well to note these volumes may be purchased separately or in the complete series. Price, \$1.35. Complete series of 10 volumes, \$10.

THE PRACTICAL MEDICINE SERIES. Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume III. "The Eye, Ear, Nose and Throat," edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., Gustavus P. Head, M.D. Series 1913. Chicago. The Year Book Publishers, 327 S. La Salle Street.

These series of year books are so well known that comment is almost unnecessary. Volume III, devoted to "The Eye, Ear, Nose and Throat," as usual, takes up most of those questions that have been discussed during the year, giving us those points which are new.

The introduction to the first part, "A Medical Degree in Ophthalmology," is of considerable interest to any one who practices medicine in any of its branches. It is a plea for higher ophthalmic education, and reviews some of the vexatious problems pertaining to legislation, as it applies to ophthalmologists and opticians.

The section on the Ear is a rather thorough review of the literature. Mastoid and Labyrinthine disease receiving generous notice.

In the last section the tonsil receives considerable attention. The review seems to suggest that perhaps there is some unnecessary surgery of tonsils. Price, \$1.50.

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AURICULAR FIBRILLATION

FREDERICK TICE, M. D.

CHICAGO

Among the many achievements of this progressive period not a few belong to medicine and surgery with their allied branches. Surgery can, and does, justly claim a fair proportion but medicine, including the marvelous advances made in diagnosis and therapy, is only coming into its own. At this time it is not even safe to predict what the future may develop. In no department of medicine or surgery has greater progress been made than in the study of cardiovascular disorders. For a full appreciation of this subject, it becomes necessary to review briefly some of the new knowledge in reference to the anatomy and physiology of the heart. Much of this has resulted from experimental research and the employment of instruments of precision. The previous imperfect, unsatisfactory methods of inspection and palpation have been replaced by graphically recording and measuring the various changes. The numerous and various instruments devised for this purpose may be placed in two groups.

1. Those concerned in the study of the peripheral circulation, as the sphygmograph, sphygmomanometer, venous blood-pressure instruments, plethysphygmograph, tachograph and sphygmobolometer.

2. Those employed to determine and register the successive changes within the heart, as the polygraph, cardiosphygmograph, sphygmotonograph and electrocardiograph.

All of these have been of service but the greatest assistance has been obtained from the polygraph and electrocardiograph, particularly in

reference to the determination of the arrhythmias.

Some form of the neurogenic view, as the cause of the heart beat, held full sway until Gaskell, in 1881, advanced his myogenic theory, which was supported by Engelmann and others. The failure to demonstrate any muscular union between the auricles and ventricles was a serious objection, until His Jr., described the missing link, known as the bundle of His or the auriculo-ventricular bundle. Tawara has studied the histologic structure of the bundle while Erlanger has determined its function experimentally. According to this theory the musculature of the heart possesses certain inherent properties, by which its function is maintained. According to Gaskell and Engelmann, these are four in number, to which Mackenzie has added a fifth. They are: 1. Rhythmicity. 2. Excitability. 3. Conductivity. 4. Contractility. 5. Tonicity.

In the cold-blooded heart, Erlanger has conclusively demonstrated that the stimulus production occurs in the sinus venosus, which he designates as "the pace-maker of the heart." The mammalian heart is devoid of a separate and distinct sinus but is represented, near the junction of the superior and inferior venae cavae with the auricle, by evolutionary remains or rests, known as the sino-auricular node or the node of Keith and Flack. It is here that the stimulus production and rhythmicity occur, not as a vital but probably physico-chemical phenomenon as maintained by Ringer, Howell, Loeb and others. With each rhythmical production and discharges of stimulus, the impulse is transmitted from the node of Keith and Flack to the auricle, passing over the bundle of His to the ventricles, calling into exercise the remaining cardinal properties of the heart muscle. It is the involvement of one or more of these cardinal properties which pro-

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913.

duces many of the cardiac disturbances and to which the arrhythmias belong.

In a study of this group of cases, the heart muscle possesses two peculiarities of considerable importance and influence.

1. The "refractory phase" of Marey. After the exercise of the five cardinal properties, there is a period of complete exhaustion, during which time it is impossible to produce any response, no matter what the stimulus may be. This phase occurs just before and for a short time following systole, while during diastole excitability, conductivity and contractility are gradually restored, at the same time the stimulus is reaccumulating. The more perfect the restoration with prolonged diastole, the smaller the amount of stimulus required and the greater the resulting contraction.

2. The "maximal contraction of Bowditch." When the heart muscle contracts it does so to the full extent within its power at that particular moment. The amount of stimulus does not necessarily bear any definite relation to the size of the contraction.

These preliminary considerations will facilitate an understanding of that form of arrhythmia known as auricular paralysis, nodal rhythm, absolute irregularity, pulsus irregularis perpetuus, cardiac flutter, delirium cordis and auricular fibrillation. Some twenty-five years ago James Mackenzie undertook the study of the cardiac irregularities and conceived the idea of the polygraph. Previous to this time the jugular pulse had been designated as either negative or positive, while the latter was interpreted as due to and indicating a tricuspid insufficiency. He was soon able to demonstrate the characteristics of a normal venous tracing, substituting the phrase auricular venous pulse for the term negative and also determined that the chief feature of a so-called positive venous pulse is not the systolic pulsation but the absence of the normal auricular wave. In contradistinction to the auricular he named this the ventricular type of a venous pulse.

He obtained, from a patient with a mitral and tricuspid stenosis, a typical ventricular type of a venous pulse, when previously it had been auricular. At the post-mortem the diagnosis was confirmed; the auricles enormously dilated and thin walled. The cause of the variation in the tracing was considered due to an auricular paralysis. In

subsequent observations, however, the auricles being found hypertrophied led to the conclusion that the auricles and ventricles contracted simultaneously, due to a stimulus from the auriculo-ventricular node, producing a nodal rhythm. Cushman was the first to suggest the possible clinical importance of auricular fibrillation. Later Cushman and Edmonds called attention to the similarity between the tracings obtained from a patient with paroxysmal irregularity and those obtained from a dog in which they had experimentally produced auricular fibrillation. Lewis was able to confirm these findings and contribute additional proof by means of the electrocardiograph. The subsequent observations of Wenckebach, Rothberger and Winterberg, Lewis, Hewlett, Janowski, and many others, have placed auricular fibrillation on a firm clinical basis, and Mackenzie now indicates by that term, the condition which he previously called nodal rhythm. Not only have these observations established the existence and highly important significance of a new syndrome or actual clinical entity, as Price believes it may be, but they also enable the clinician to recognize the condition with a certainty and without difficulty. Only in exceptional instances is it now necessary to have graphic records, to make a diagnosis.

Definition of auricular fibrillation:

The term "fibrillation" is applied to a curious condition of the muscle fibres of the heart, where the individual fibres, in place of contracting in an orderly and simultaneous manner during systole, contract rapidly and independently of one another. (Mackenzie.)

The normal regular sinus stimulus is replaced by stimulus production in multiple auricular foci of the most irregular character; there is no regular transmission to the ventricles, so their contractions and the resulting peripheral pulse become very irregular.

Lewis describes the appearance of the auricle as follows: "When the auricle is caused to pass into fibrillation or delirium, the appearances are quite distinctive; the muscular walls are maintained in a position of diastole; systole, either complete or partial, is never accomplished; the structure as a whole rests immobile; but close observation of the muscle surface reveals its extreme and incessant activity; rapid and minute twitchings and undulatory movements are visible

over the whole." The ventricles may develop a fibrillation but it is incompatible with life and probably is present in many cases of sudden death.

Etiology. 1. Incidence. According to Lewis, auricular fibrillation occurs in 60 to 70 per cent of all cardiac failures, while Mackenzie holds that it comprises 70 to 80 per cent of the arrhythmias. If this be true, its clinical significance is not easily overestimated.

2. Pathology. The fundamental change is believed to be a "functional fragmentation" of the auricular musculature, occurring independently or associated with other conditions, chiefly cardiac, cardio-arterio-renal and infective diseases. The chief pathologic finding, according to Radasevsky, is a widespread fibrosis most marked in the auricles. Mackenzie, Schönberg and Lewis found, in most cases, evidence of a chronic inflammatory process, invading a part or the entire myocardium. Fibrillation may be induced experimentally by producing an anemia of the auricle by means of a ligature or pressure. Fibrosis or a myocarditis may act in the same manner.

In some cases of fibrillation, the microscope has revealed only a normal myocardium. When this occurs, it has been suggested, that increased intra-auricular pressure, or vaso-motor disturbances, constitutes the exciting factor.

3. Age. Fibrillation has been observed between the ages of 13 and 84. It occurs most frequently at two periods, during the decades between 20 to 30 and from 50 to 60. The earlier period is characterized by the prevalence of a rheumatism or chorea; the later period by degenerative changes.

4. Sex. The condition is far more frequent in the male, due to the higher percentage in the non-rheumatic cases. When a rheumatism is present there is but little difference.

5. Associated conditions:

a. The cardiac group includes the various simple and combined valvular lesions, various forms of myocarditis, degenerations of the myocardium, aortic aneurysms, acute and chronic pericarditis. Among the valvular lesions, fibrillation occurs most frequently with mitral stenosis, comprising approximately 60 per cent.

b. The cardio-arterio-renal group includes not only the valvular, myocardial and pericardial in-

volvements but also the different forms of kidney disease with or without arterial changes.

c. Fibrillation has been found associated with certain infections as acute articular rheumatism, chorea, pneumonia, streptococcal endocarditis, syphilis, influenza and tuberculous pleurisy. Here as in the etiology of endocarditis acute articular rheumatism occupies the place of honor, being present in approximately 70 per cent.

d. Other conditions, as emphysema, chronic bronchitis and chronic alcoholism have been accompanied with fibrillation but were probably associated with myocardial changes.

Clinical recognition:

Auricular fibrillation produces two distinct groups of functional disturbance; one due to the disturbed ventricular action; the other to the practical paralysis of the auricle.

In most instances the characteristic ventricular disturbance, as determined by the radial pulse, consists of an irregularity involving both the rhythm and the force, combined with an increase in rate. As determined by palpation, or better by a simple sphygmographic tracing, no two beats are exactly alike. The more rapid the rate the more pronounced the irregularity. Not infrequently the ventricular rate exceeds that in the radial, due to imperfect ventricular contractions. Occasionally the ventricular rate is decreased, but is always accompanied by the characteristic irregularity. A slowing of the rate is probably due to changes in the auriculo-ventricular bundle. It is not to be understood that every irregular pulse indicates fibrillation, for irregularity occurs in extra or premature systoles, partial heart block and other conditions. When doubt exists, a simple clinical test will suffice and aid in the differentiation. Accelerated ventricular action, induced by physical exertion or rapid, deep breathing, increases the irregularity of fibrillation but abolishes it in other forms of arrhythmia. As the ventricular activity again assumes the former rate, the irregularity of fibrillation becomes less but increases in the other conditions. There also exists a marked difference in the persistence of the irregularity; fibrillation produces a permanent absence of the fundamental rhythm, while in all other forms the disappearance is more or less transient.

The auricular disturbances are more varied; consisting of changes in the venous pulse, as de-

terminated by inspection or the polygraph, and the incoordinate action of the auricular fibres as manifested by the electrocardiograph.

1. By inspection there is observed a distinct pulsation of the jugular, synchronous with the ventricular contraction. This pulsation is usually more pronounced when the rate is materially increased.

2. The polygraphic evidence consists of the presence of a ventricular type of venous tracing. The normal *a* wave is absent, due to a lack of auricular contraction. In many tracings, particularly when the rate is slow, a distinct undulating character is present during the auricular or presphygmic period.

3. The work of Lewis, Rothberger and Winterberg with the electrocardiograph has conclusively confirmed the polygraphic findings; contributing direct evidence of the disturbed auricular function. While the electrocardiograph has been of the greatest assistance in establishing the existence of fibrillation, it has not added any new facts and at present, like the polygraph, is no longer necessary, with certain exceptions, in making the diagnosis. The electrocardiogram in auricular fibrillation, presents definite changes, consisting of an absence of the *P* wave and the presence of a series of fine undulations during the auricular period.

Associated with the signs as given, there are certain cardiac changes, more or less significant. These occur most frequently with mitral stenosis. When fibrillation develops, the usual presystolic murmur disappears and a murmur is heard following the second sound; the early diastolic or true mitral diastolic. The presystolic fails on account of the lack of auricular contraction; the early diastolic is due chiefly to the negative intraventricular pressure produced during ventricular diastole.

Prognosis. The immediate or ultimate outcome must, in part, depend on the associated lesion; while the presence of a fibrillation always constitutes a serious, additional burden to the heart. Its appearance signifies the beginning of cardiac failure, which may be modified or deferred by appropriate treatment. The ventricular rate is the most valuable single factor in determining the prognosis. A persistent rate of 120 or over is always more or less serious; when 140 or over, the duration of life can be estimated in

months; when 160 or over, life rarely continues longer than a few days or weeks. The most unfavorable prognosis occurs when the rate is exceptionally rapid and the heart refuses to respond to treatment.

Treatment. Few, if any, of the recent discoveries in medicine or surgery will compare with the brilliant results obtained in the treatment of auricular fibrillation. Therapeutically the indications consist in removing the cause or in alleviating the symptoms. So far as is known, no drug has any influence in preventing or checking fibrillation. Sometimes a sudden cessation occurs, but this may take place in complete absence of therapy. It is in the alleviation of the symptoms and the control of the fibrillation where such success may be achieved. In no other cardiac disease or group of diseases is it possible to obtain such definite results or have more confidence in the treatment. Auricular fibrillation constitutes a distinct demand for the administration of digitalis or some member of its group. Nearly all clinicians have observed the varying effects of digitalis; some attributing it to the drug, others to the form of the lesion. Withering was the first, but scores of others since his time, have recorded the beneficial effects of digitalis in heart disease, particularly when the pulse was rapid and irregular. The cause of this variation was not known until recently. The observations which have resulted in demonstrating the existence of auricular fibrillation, have also determined the fact that the beneficial influence and the reputation of digitalis are due to its effect upon this condition.

Cushny makes the following statements: "As regards the treatment of the condition, no disease of the heart responds so satisfactorily to digitalis and its allies as auricular fibrillation. In fact, were it not for its almost specific action in fibrillation it may be questioned whether this series would enjoy the reputation it has in heart disease." Digitalis produces its beneficial effect in fibrillation chiefly by its inhibitory influence on the vagus and by direct action on the myocardium; decreasing the excitability and conductivity of the auriculo-ventricular bundle. It is in the rheumatic cases, with a normal bundle, that the best results occur. When the bundle is involved and a partial or complete heart-block is present, digitalis may even do harm.

As regards the amount of digitalis, Mackenzie favors the plan of Withering, in giving a sufficient quantity to cause a slight headache or even nausea and vomiting. When the full effect is once produced, the drug is then discontinued or given in sufficient amount to maintain a satisfactory rate. Some patients require the drug over periods of weeks or months, others only during the recurring attacks of cardiac failure.

In conclusion, undoubtedly new facts will be added, but so far as our present knowledge is concerned, it is hoped that the foregoing description of auricular fibrillation is sufficiently clear to emphasize its great clinical importance as well as the means of diagnosis and to assist in the treatment.

31 N. STATE ST.

FAILURES AND SUCCESSES IN DIAGNOSIS AND SURGICAL INTERVENTION OF SOME INTRACRANIAL DISEASES, ESPECIALLY FROM THE STANDPOINT OF AN OTO-LARYNGOLOGIST, WITH REPORT OF CASES*

JOSEPH C. BECK, M. D.

CHICAGO, ILLINOIS

While the general impression prevails that brain surgery is a thankless field of our science, perusal of the literature indicates that the successes in operations on intracranial structures predominate. This may be due to the fact that successful operations are often reported, and failures, for obvious reasons, are not. We are all aware that in both the diagnosis and treatment of intracranial diseases remarkable advances have been made during the past ten years. Yet at its best, we have to acknowledge our helplessness and lack of perfection, as compared with the assurance we have reached in other branches of surgery. If we could only induce all, to report their failures as well as their best results, this branch of surgery would rapidly rise in its usefulness. My report includes the following conditions:

1. Sinus thrombosis. 2. Meningitis. 3. Extradural abscess. 4. Brain abscess. 5. Brain

tumor. 6. Hypophysis tumor. 7. Intracranial hemorrhage, with and without fracture of the skull. 8. Gasserian ganglion (intractable tic douloureux). 9. External hydrocephalus. 10. Encephalocele.

Of each variety of these conditions I shall cite at least one case. This will give me an opportunity to discuss such points as are new and helpful in making correct diagnosis, and dwell upon the latest form of treatment. In conclusion, I shall give a summary of all cases treated, with a brief resumé of points helpful in brain surgery. I shall omit discussion of symptoms, pathology and other well known matters pertaining to this subject, except in the case of my brother, Rudolph Beck, which I shall report in detail because of its unusual character.

SINUS THROMBOSIS

Of all brain conditions, that of sinus thrombosis is the most satisfactory to diagnose and to treat. Rarely does a thorough blood examination leave us in doubt, and the clinical picture is quite characteristic. Two new symptoms have recently been added to those usually cited. The first symptom is suggested by Crowe (Baltimore), and Beck (Vienna). They find that in unilateral sinus thrombosis, when compressing the internal jugular on the healthy side, there will be produced on this healthy side an artificial temporary choked disc and dilatation of the vein of the temporal region. Same will disappear as soon as the jugular vein is released. I have tested seven cases for this symptom, and confirmed this test in three of these cases. The other test is suggested by Urbanschitsch (Vienna), who claims that the blood in septic sinus thrombosis undergoes clotting twice as fast as that of normal blood. This test proved positive in four of my five cases. In another case, the clinical symptoms indicated sinus thrombosis, but the blood count, blood cultures and blood clotting were negative, and the artificial choked disc was absent, which was suggestive that this case was not a sinus thrombosis. The case recovered without any surgical intervention, which added another point to the probability that this was not sinus thrombosis.

A radiogram in the diagnosis of sinus thromboses is a helpful aid, but not an infallible one. The following case demonstrated how difficult or even impossible it is to make the diagnosis of

*Read before the Chicago Laryngological and Otological Society, April 22, 1913.

sinus thrombosis, although the outcome was successful.

CASE 1. A boy, aged four years, in third week of scarlet fever, with sequelæ of a double otitis media suppurativa, suddenly developed a chill, followed by a temperature of 105 degrees and profuse sweat. This condition recurred two or three times the following day. A most prominent otologist was called in consultation by the family physician. His diagnosis was that of "sinus thrombosis," but he was unable to state on which side. At that time Beck's Crowe test was not yet known. I saw the case the following day and also could not determine on which side the sinus thrombosis existed. Only one point led me to a decision to operate on the right side, namely, that the perforation on that side was smaller and discharge more scanty. Upon opening the right side I found complete thrombosis of a great portion of the sinus involving the jugular bulb. Ligation and resection of jugular vein and packing off the sinus near the torcular and a simple mastoid operation resulted in complete recovery.

Of thirty-eight cases of sinus thrombosis, either with or without complications, as bulb and jugular involvement, meningitis, brain abscess and general sepsis, or some other general condition, as pneumonia in nephritis, etc., twenty-six recovered following operation. Of the twelve fatal cases, ten were complicated mostly by septic pneumonia, which came practically moribund to the operating table; the two remaining cases, which were diagnosed early and apparently not complicated, died from rapidly developing meningitis. Both of these cases were of the streptococcal type of infection.

MENINGITIS

This complication is the most frequent one, secondary to suppurative middle ear diseases, and the diagnosis is comparatively easy. Spinal puncture has revolutionized our means of diagnosis, and the complete examination of the cerebrospinal fluid has aided materially our ability to prognosticate and treat the condition. One must determine principally whether he has to deal with a serous or purulent form, and this is only possible by spinal puncture and subsequent microscopic and cultural examinations. Whether the process is localized or general will influence the prognosis materially. Until very recently purulent septic meningitis, especially the general, has been considered fatal by the majority of authorities, and when a case so diagnosed recovered a doubt was expressed as to whether it was a diffuse or very septic form. The view is taken that

cerebritis following in the wake of a diffuse septic meningitis is always fatal. It was the work of Manasse and others after him that led to the attempts at relieving intracranial pressure by allowing the escape of cerebrospinal fluid, and thus checking the progress of the infection. He reported several cases of recovery after repeated spinal punctures. The surgical work of Haynes, associated with the work of Kopetzky, on the thorough analysis of the cerebrospinal fluid of cases of meningitis, awakened the greatest interest. Although it is still too early to judge of the efficacy of their work on the drainage of the water-bed (cisterna magna) in cases of septic meningitis, there are already quite a number of cases on record thus operated upon, and it will be of the greatest interest to know the final results. I know of three successful cases thus treated, of which I would like to boast of one. The two others, however, I know of only from personal communication. My experience is limited to seven cases, which I operated upon by the method suggested by Haynes, of which six died and one recovered. Of these seven, I will, however, report only two cases in detail.

CASE 1. The first case I operated by this method upon my return from the meeting of the American Association of Laryngology, Rhinology and Otolaryngology, where I had just heard the paper of Dr. Haynes and had only a meager knowledge of the technic. It was a case of purulent septic meningitis following an external operation on the frontal sinuses in a patient who at that time was in a very poor condition, unconscious for three days. I also did an imperfect operation in draining the cisterna magna, having made the opening in the occiput too high for good drainage. Three other cases were all very grave and far advanced septic meningitis following ear complications. One was operated on in a home in a small town under very unfavorable surroundings. The fifth case, and the one that has recovered, is of a young girl, about fourteen years old, who had a violent acute mastoiditis with sinus thrombosis requiring jugular ligation. General septic meningitis followed immediately after operation. The examination of the patient at this time was as follows: A stupor typical of meningitis was present. Partial bilateral ptosis; pupils small and very sluggish in reaction to light; fundus examination showed no change. The neck was rigid and there was a typical Koernig and Babinsky sign present. The sensation all over the body, except the left lower limb, was lowered and at the above mentioned location it was exaggerated. The field previously operated on (mastoid and jugular ligation, right) was in good condition. Temperature, 103.8 degrees; pulse, 126;

respiration, 32. General physical examination, negative. Spinal puncture: Fluid not absolutely clear, yet not cloudy. Escaped under slight pressure. Laboratory findings: Blood examination. Blood cultures negative. Leucocytosis, 16,000. Differential count revealed the polynuclear type, 76 per cent. Examination of cerebrospinal fluid, smears as well as cultures, showed pure cultures of pneumococci. (Bacteriologic examination of the pus from the ear or mastoid was not made at the time of the operation and now there was a mixed culture present.) Chemical test of the fluid for the presence of sugar showed its absence. Urinary analysis negative.

From these findings the diagnosis of a diffuse purulent pneumococcus meningitis was made and the operation of drainage of the cisterna magna, as suggested by Haynes, was performed. A blood pressure apparatus was constantly kept on the patient's arm and records made during and after operation to determine the influence which the intracranial pressure had on blood pressure. When the patient was completely anesthetized the blood pressure was 116 degrees. With the removal of the bone (decompression), it fell to 102 degrees, and on opening the meninges and allowing the escape of fluid it dropped to 97 degrees; at the end of the operation it was 94 degrees to 96 degrees. There was very little difficulty during the operation, and the patient was returned to bed in very good condition, after one hour and forty-five minutes; the operation itself, including the anesthesia, was one hour and ten minutes. The only difficulty met with in this case was injury to the occipital sinus, causing constant oozing and obstruction of the field to a considerable extent.

Further comments on this operation will be made in connection with the other case, since similar observations were made. The temperature and pulse rate remained about the same for the next two days, but on the third day both began to take on a more normal course. The other symptoms likewise gradually subsided, the temperature ranging from 99.8 to 101.2 degrees; pulse, 104 to 116 degrees. The drainage of cerebrospinal fluid was considerable on the first day and the blood pressure was also proportionately low, 95 degrees. On the second day, however, drainage decreased very much and the patient looked and felt much better. The examination of the fluid from the drainage wick on the third day showed very few pneumococci, but many more staphylococci. The latter were considered as coming from the scalp wound rather than from the meninges. There was very little secretion about the wound. The dressing was removed and but a very slight drainage left extradurally, which after two more days was removed and the external wound allowed to close. The subsequent history is entirely uneventful. Nine months after operation the patient is enjoying perfect health.

CASE 2. A man, aged 47 years, came to Cook County Hospital with pain about his ear. There was no history as to a previous discharge. Examina-

tion showed a scanty amount of pus and a somewhat narrow auditory meatus. Back of the auricle and extending towards the neck was a swelling which was fluctuating, but not very painful. The hearing was but slightly reduced. Temperature, 99.8; pulse, 100.

A diagnosis of a subperiosteal abscess following an otitis externa was made and I decided to open it under local infiltration anesthesia. After doing this I found a necrosis of the lower portion of the mastoid process, with a fistular formation going upward. I then had the patient put under general anesthesia and performed a complete simple mastoid operation. There appeared to be nowhere an exosure towards the vital region, as the dura, etc. The patient made an uneventful recovery; after ten days, during which he ran an absolutely normal course, being up and about. On the eleventh day he developed a sudden rise of temperature, headaches and a slight stiffness of the neck, with a leucocytosis of 12,000, but no evidence of Koernig or Babinski sign. A spinal puncture was made and the fluid escaped under great pressure. The fluid was turbid and the microscopic examination showed the cellular elements increased, with pus cocci in small strands. The next day the patient developed a greater degree of neck rigidity and unequal pupils, the right spastically contracted and the left dilated, neither reacting to light. The sensorium was considerably dulled and the patient appeared to have pain. There was, however, no evidence of Koernig or Babinski, and the elbow and knee reflexes were but slightly reduced. Another spinal puncture was made, it again escaping under pressure, but not as great as the day before. It was still cloudy and the cellular elements were increased. The copper reduction test showed to be positive; that is, it did not reduce the copper as normal cerebrospinal fluid does. Cultures and smears were made from this fluid and both showed chains of streptococci. The diagnosis now was made of septic diffuse meningitis and operation was decided upon, namely, drainage of the cisterna magna. Under general ether anesthesia the usual technic, as suggested by Haynes, was carried out and completed without much difficulty. The unusual thickness of the bone and a bothersome oozing from the diploe took up considerable time in the operation. This latter trouble was very well controlled by Horsley's bone wax. I may say that the use of the electric bur and forceps made the operation very much easier. I am very partial to these two instruments in work on the skull. The blood pressure before and at the beginning of the operation was 159 degrees; following the decompression, before opening the dura, it fell to 146 degrees, and after the escape of a fair amount of cerebrospinal fluid it fell to 138 degrees. The patient remained in about the same condition until the third day, when the temperature rose to 105 degrees; pulse, 132 degrees; he became very restless and could be roused only with difficulty. Spinal fluid at this time was under

normal pressure; it was still cloudy and had the same characteristics as before. Patient died that night. Post-mortem examination did not show any increase of fluid. The dura, except in the region of the temporal bone and region of the occiput operated on did not appear changed. Considerable injection of the pia mater. The first evidence of pus was after severing the tentorium. The pons and middle lobe of the cerebellum, as well as its contiguous portion of the lateral lobes, were bathed in a thick yellow fibrinous exudate, and this extended down into the spinal canal as far as one could see. Cultures were made from this, which showed that the venous sinuses contained post-mortem clots; otherwise they were normal. Over the tegmen tympani intradurally was a small quantity of localized pus accumulation of a thick yellow character, but no communication to the posterior fossa from this could be traced. Cultures from this pus were made and subsequently the examination showed a mixed culture. Removing the dura over this tegmen, a necrotic area was discovered, which led to the attic of the ear.

I have records of only fifty-one cases of meningitis, but am satisfied that I have seen again as many in consultation or in my clinical experience. Of these 51 cases, 18 had spinal punctures and septic organisms were recovered from 12. The diagnosis of diffuse septic meningitis was made in 37 cases of the 51. Of these 37 cases, 28 came to operation either primarily, as a nasal accessory sinus, mastoid, or some other local infection, or by way of the exposure of the meninges over the seat nearest the infection; and, finally, the opening of the cisterna magna of the 14 remaining cases of meningitis, either local, septic or serous of the type. Twelve of these cases recovered without operation, and two died. This number does not include the local meningitis with brain abscess, sinus thrombosis, etc. Of the 37 cases of diffuse septic meningitis, whether operated on or not, only three recovered.

BRAIN ABSCESS

We must consider principally two types: (a) Extradural; (b) intradural. The diagnosis when neighboring focal (motor) signs are present is usually not difficult, but it so happens that frequently the focal signs are absent, especially if the abscess is located in what is considered the dead area (occipital, supratentorial). Perhaps the most significant symptom is the constant localized severe head pain.

EXTRADURAL ABSCESS

The majority of *extradural abscesses* that have come under my observation have been discovered

during or after mastoid operations, unsuspected and undiagnosed before the operation. In two cases the x-ray was of considerable aid, but in another case where the radiogram showed a localized shadow no abscess was found. The percussion note is likewise not reliable. Again, the examination of the eye grounds as to choked disk, has just as often proven negative as positive. The presence of slow pulse or subnormal temperature has also been conspicuously absent, unless the abscess was very large. The following cases will well illustrate the title of this paper:

CASE 1. A man, aged 29 years, had an acute exacerbation of a chronic suppuration of the middle ear, with a large perforation of the membrana tympani in the upper posterior portion, with involvement of the annulus tympanicus. The principal complaint was severe occipital headache, with marked tenderness over the squamous portion of the tip. There was no evidence of nystagmus and caloric reaction proved a normally reacting labyrinth. Spinal puncture was negative. X-ray picture was of no particular help. Eye grounds were normal; also normal vision. Reflexes all normal. Diagnosis: Acute mastoiditis, with probable extradural abscess. Operation: Complete exenteration of the mastoid, including the ossicles. A fistula was found running upwards and backwards, which when followed, opened into an extradural abscess, and about two ounces of pus escaped with a gush. The opening in the bone was enlarged and the abscess drained. Patient recovered from this operation, and after ten days of a normal course was up and about. On the seventeenth day after operation the patient again complained of headache and the temperature rose to 102 degrees. Dr. Cavanaugh, who had charge of the case during my absence from the city, concluded that probably a retention was present, and decided to operate that afternoon. Before he reached the hospital, however, the patient had died suddenly. Post-mortem examination showed all meninges normal. The region of the extradural abscess showed no evidence of a perforation in the bone. In the temporal lobe was located a thin-walled abscess, containing about four ounces of yellowish pus. After hardening the brain and sectioning it, it was found that the abscess had perforated into the fourth ventricle, which was probably the cause of sudden death. The temporal bone shows a perfectly intact tegmen. The infection into the brain structure most probably took place by a small venule route.

CASE 2. A woman, aged 64 years, following an acute otitis media and a simple mastoid operation, developed a streptococcemia, with a great rise in temperature and high leucocytosis. After a few days these septic symptoms subsided, but she suddenly developed a monoplegia of the opposite arm. The temperature was then only 100 and pulse 70, with considerable pain about the head. The diagnosis by

another otologist was made of an extradural abscess and exploratory operation advised. On further examination, however, it showed that there was also considerable tenderness over the shoulder of this so-called monoplegia, and that the patient could raise the arm with considerable pain. This proved that the condition was a thrombosis of the suprascapular vein, with a joint infection, and not a monoplegia due to an extradural abscess. No operation was performed, and the patient recovered with some limited motion in that shoulder.

Of 16 extradural abscesses, 11 were found at the time of operating for mastoid, sinus thrombosis and frontal sinus disease. Twelve of these 16 cases recovered after operation. Of the 4 fatal cases, 3 were operated on and became complicated by intradural abscess, meningitis and general sepsis. One case diagnosed refused operation, but a post-mortem performed revealed a large extradural abscess in the cerebellar region.

INTRADURAL BRAIN ABSCESS

Intradural brain abscess usually gives rise to grave symptoms, especially the more acute forms, before any localization or walling off has taken place. They are very frequently associated with a great degree of meningitis. I have been very unfortunate in not having saved many patients with intradural abscess, but believe that with the improved technic of operating in two stages, as suggested by Dench and McKernon, namely, to perform an early decompression and walling off with gauze, and later simply opening the abscess wide and draining it well, we will reduce the mortality considerably.

CASE 1. A man, aged 39 years, was brought to the hospital in a semi-comatose condition. The statement made by his family physician was that for the past five days he had been having very severe headaches, which were diffused all over the head; vomiting spells and a stiffness in his neck, the latter condition increasing within the last twenty-four hours, previously to which he was most of the time conscious. No history of any previous illness could be elicited.

Examination: A well nourished man in a stuporous condition, muttering at times; neck rigid; slight Koernig; no Babinsky. Pupils small and equal. Dilatation of the pupil by homatropine revealed slight papillitis. Examination of the left ear: Small perforation high up. Spinal puncture demonstrated somewhat turbid fluid escaping under pressure. Microscopical examination of same revealed increase of the cellular elements and a few scattered diplococci. Reaction for sugar showed its absence. Wassermann reaction negative. Blood examination: Leucocytes, 12,000; increase in polymorphonuclear variety. Was-

sermann negative. Radiogram: Mastoid and sinuses showed left-sided mastoid involvement. Diagnosis: Seropurulent meningitis secondary to a probable chronic suppurative mastoiditis.

Operation: Typical extensive simple mastoid operation with lateral sinus exposure. The mastoid disease appeared to be of the chronic character and no evidence of any necrotic area towards the meninges could be discerned. The sinus was normal. The typical Haynes operation for the drainage of the cisterna magna was performed, with only one difficulty, viz., in attempting to place the patient in a position face downward he would stop breathing, so that we had to operate on the side. In reattempting to place him on his face downward during the latter part of the operation, he again stopped breathing. The complete operation of mastoid, as well as the Haynes operation, required an hour and twelve minutes. The patient never regained consciousness and died that night.

Post-mortem examination revealed a moderate amount of diffused meningitis. There was no evidence of the thick yellow exudate that was formerly found in the cases of meningitis previously cited. The entire left temporo-sphenoidal lobe, including the portion of the occipital, was involved in an abscess, with a moderately thin wall, containing about half a pint of pus, of a very fluid character. The tegmen of the left temporal area showed no evidence of any necrotic focus, or a path of infection to the brain.

The comments on this case are: 1. The fact of his stopping breathing when his face was turned down, which would suggest that this large abscess probably in that position pressed on the vital respiratory center. 2. The absence of a significant shadow in the radiogram outlining the abscess, notwithstanding that the latter was stereoscopic. 3. The complete masking of the localized symptoms of the abscess by the meningeal symptoms. 4. The absence of any necrotic focus suggesting extension of the infectious process from the mastoid.

CASE 2. A boy, aged 7 years, for several years had had a discharging ear on the right side. For the past three weeks has been having headaches, which were particularly localized on the right side. He has had several vomiting spells, having also lost appetite and strength. Noted that he could not walk straight, usually falling to the right. After two weeks of these symptoms and treatment by a family physician, he presented himself, with the above history.

Examination: Poorly nourished child, having a blepharospasm, photophobia and spontaneous nystagmus, particularly to the right. Barany's pointing sign not well defined. Diadoconesis positive. (The coordinate movements of the hands in pronation and supination rapidly performed is impossible.) Spinal puncture negative. Blood examination: Slight leucocytosis. Examination of the fundus oculi showed some dilatation of the veins; vision normal. All other cranial nerves negative. Reflexes negativiz-

Hearing apparently normal in either ear. Caloric test appears to increase the spontaneous nystagmus. Romberg sign is present. Patient falls to the right in walking. Radiogram showed a shadow in the right cerebellar region. Right-sided mastoid involvement.

Diagnosis: Cerebellar abscess on right side.

Operation: Subtentorial flap exposing right cerebellum revealed no evidence of abscess, but just beyond this point, through a very firm capsule, a small abscess containing a thimbleful of pus, escaped under slight pressure. Cultures from this were made. A drainage wick introduced and wound closed. Patient rallied well and spontaneous nystagmus markedly diminished. However, the headache still continued; also temperature and pulse remained high. After four days, the patient continuing to run a septic condition notwithstanding free drainage and large doses of urotropin and antistreptococcic serum, we decided to open the mastoid, which was deferred at the time of the first operation, owing to the poor condition of the patient. There was very little evidence of active mastoid disease.

For the next ten days the boy gradually improved in so far as the symptoms of headache, nystagmus, temperature and pulse were concerned, but on the fifteenth day following the operation cardiac collapse occurred, and the patient died.

Post-mortem was not permitted.

This case illustrates the virulency of and violent toxemin resulting from a streptococcic infection.

CASE 3. A man, aged twenty-seven years, admitted to the hospital with a history of lues sixteen years ago and now complaining of headache, some dizziness, nausea and seeing double.

Examination revealed a paralysis of his right abducens muscle. Right ear discharging pus, patient states for many years. Wasserman of the blood, negative. Placed upon anti-luetic treatment in large doses without any result.

Referred to the neurological clinic where patient showed slight disturbances in his gait and spontaneous nystagmus, particularly to the left, all other reflexes normal, and the neurologist now made a diagnosis of a cerebellar abscess on the right side, secondary to his chronic suppurative ear.

He was now referred to the otological clinic for further examination and treatment. The attending otologist, making a hasty examination, believed it to be a case of cerebral syphilis; he having made a hearing test by means of tuning forks and constituting the following findings: That the patient heard in the diseased ear; a prolonged negative Rinne; Weber laterating to affected ear.

I was then called in the case and found the following condition:

A poorly nourished man, somewhat dull in expression, but apparently in great pain, which he directed towards the back of the head. The eyelids were drooping (no evidence of any ocular muscle paralysis nor nystagmus), pupils were reacting normally, the fundus examination negative; right ear foul smelling

discharge, the remains of the drum membrane thick and swollen, the upper canal wall appeared to be sagging and a small perforation situated in the extreme anterior and superior quadrant; left ear negative. Placing a vibrating tuning fork of low pitch into the left auditory canal, patient could not hear the lowest sound. (Norval Pierce test.) Reversing the test, fork in right ear, the patient heard almost normally. Irrigating right ear with cold water produced no nystagmus, whereas cold water in the left ear produced a marked compound nystagmus. These tests demonstrated definitely that the right labyrinth was destroyed.

Blood examination: Leucocytosis polymorphonuclear 85 per cent. Wasserman again negative. Spinal puncture, fluid was under normal pressure, clear; Nonne negative. Noguchi globuline test positive; no increase in the cellular elements. Barany's pointing test negative. Diado-aconesia absent.

Consulting now with the neurologist, we decided that it was not a cerebellar abscess, but a suppurative labyrinthitis, secondary to a chronic suppuration of the middle ear and mastoid, decided upon an operation, which I performed, namely: Radical mastoid, including Neumann labyrinth operation.

The usual picture of a chronic suppurative mastoiditis encountered. The horizontal semi-circular canal was intact, as were also the tegmen towards the cerebrum and the sinus wall. Exploration of the middle ear revealed a necrotic promontory of the cochlea, the probable source of infection of the internal ear. The usual technique of the Neumann labyrinth operation was carried out without any difficulty. The electric bur proving great aid in the technique. The anterior vertical semi-circular canal when opened showed distinctly containing pus.

Subsequent course: Patient rallied, pains general, toxic condition, drooping of the eyelids disappeared on the third day. However, patient still complained of being dizzy. On the fourth day the abducens paralysis recurred, as also was apparent a slight facial paresis, both, however, disappearing within the next three or four days. From now on the patient made an uneventful recovery, dizziness completely disappearing at the end of the third week.

Of 19 cases, 2 recovered. Both of these were in the temporo-sphenoidal area, and the operation was by way of the mastoid tegmen route. In neither case could there be any microorganism recovered from the pus of the abscess, either in smear or culture. In one case the abscess followed a rapidly destructive mastoiditis in an influenza infection, and the second in the seventh week of a scarlet fever otitis media, in a child aged three years. Of the 17 remaining cases, 10 came to operation. Six were in the cerebellar region; 2 fronto-parietal, and 2 temporo-sphenoidal. The seven cases either refused operation

or were too far advanced to be submitted to the operation. The above three cases, which only recently came under my care, bring out some interesting points in the diagnosis and treatment.

BRAIN TUMOR

This subject has until very recently not interested the otologist in particular, but since the development of the diagnosis of labyrinth diseases has to be considered in the differential diagnosis, a large number of reports of brain tumor are already at hand from that source. I refer especially to tumors of the auditory nerves, and to the tumors located in the pontine cerebellar angle. One of the important diagnostic measures is the radiogram. This invariably shows a shadow which obliterates the internal auditory meatus. The meatus can invariably be made out in cases where the middle ear is not too greatly involved in a suppurative process. Other focal symptoms from a brain tumor are dependent on the well-known nervous anatomy and physiology, so that a diagnosis should be and is in many cases comparatively easy. Yet the three cases that I record show so conclusively that with my fair knowledge of making a diagnosis of brain tumor, and with the aid and cooperation of expert consultants, only the post-mortem cleared up the diagnosis.

CASE 1. A young man, aged twenty years, gave a history of having had for the past five years what his brother designated as epileptic fits. The main complaints were headaches and mental dullness. During my observation for two weeks the patient had no epileptic attacks, but he showed a constant *air hunger*, had a very unsteady gait and a spontaneous nystagmus to both sides. Turning the caloric tests of the labyrinth increased the existing nystagmus. Reflexes of the arms, abdomen and leg showed a slight paresis and a slight Babinski on the left side. Examination of the eyes as to pupillary reaction, fundus and field of vision was negative. There was a scar over the right parietal region of the scalp. Radiogram was negative. Wassermann and other laboratory as well as general examination, negative. My diagnosis was that of a cerebellar irritation, perhaps tumor. Consultation with two prominent neurologists resulted in the agreement that it was a tumor. One neurologist localized it in the right motor area; the other agreed with me that it was probably in the cerebellar area. Under general anesthesia I made a subtentorial osteoplastic flap, exposing both occipital and cerebellar regions. The cerebral regions were normal. No increase in the intracranial pressure. Over the lateral cerebellar lobes were localized cystic formations, within the

arachnoid, or pia mater. Their fluid was clear and an examination of the same revealed normal cerebrospinal fluid. Exploration of the cerebellar lobes by palpation as well as by blunt puncture gave no evidence of a tumor, nor did the digital examination of the pointing cerebellar angle. It was decided not to explore the motor area at this time, since more than three hours had been consumed in the operation, and the patient was not in sufficiently good condition. The flap was replaced and the wound closed. The patient recovered from the operation. The air hunger, nystagmus and unsteadiness of gait entirely disappeared. The headaches of which the patient had previously complained were still present, but not so marked. The boy also appeared to be brighter. Seven weeks after operation he returned to work at his old trade as tinner. One morning, while at work, without having complained of anything, he suddenly dropped to the floor, and when the other workmen reached his side he was dead. Post-mortem examination revealed multiple tumors all through his brain, which were histologically diagnosed as gummata. Had a spinal puncture been made in this case, tests for Wassermann of the spinal fluid, the Noguchi globulin and the count of the cellular elements been made, the diagnosis might have been cleared up. The recent colloidal gold test would have unquestionably helped very materially in the diagnosis.

CASE 2. In reporting this case I perform the saddest duty of my career, wishing to contribute to science whatever may be gained from the study of it. My brother, Dr. Rudolph Beck, dentist, aged forty-four years, single, had until his forty-first year been a well man. There is nothing in the childhood and adolescent history that has any relation to the present condition. The same is true of the family history, with the exception of migraine in some of the members. Venereal history negative as to lues. At thirty-four he had a violent attack of appendicitis, was operated on and recovered perfectly. One year later he had an attack of intestinal pain, followed by bloody stool. Diagnosis was made of duodenal ulcer. He recovered completely from this within a short time. From this time on he suffered more or less from constipation, for which he made yearly visits to Carlsbad or other watering-places. Three years ago he had an attack of headache, which lasted about three weeks. This headache was general, but more severe at night. He was treated by Dr. F., an internist, who diagnosed the case one of gastrointestinal fermentation, and under suitable treatment the headache disappeared. In November, 1912, he contracted a head cold, associated with a slight headache over the left fronto-temporal region. He also complained of some stiffness of the left side of his neck, a fullness of the left ear, and hearing indistinct on that side. These headaches became so persistent that he took pyramidon (five grains, three or four times a day). I examined him at this time and found a markedly deflected septum on the left side, with a ridge which closed

off the entire ethmoid region. No evidence of any ear affection; the hearing was normal. Local application to the nose and Eustachian tube (inflation from the opposite side) did not relieve him; on the contrary, he grew worse. The headaches became more constant and more intense, and frequently woke him from his sleep. While at work he would sometimes be seized by the attack of head-pain, causing temporary weakness and dizziness. Since there was no benefit from the local treatment, it was assumed that he had worked too strenuously for the entire year, and therefore he was advised to rest. A general examination as well as the laboratory findings, including the Wassermann, were absolutely negative. The eye, as to vision, fundus, visual field (not perimetric for color, only roughly), as well as the reflexes, were negative. There was no evidence of any disturbance of the cerebrospinal nervous system. I then recommended the resection of the nasal septum, on the ground that he had a neuralgia from pressure on the naso-ethmoidal nerves, or perhaps some blocked cells. I referred him to two of my confreres, oto-laryngologists, and one agreed with me, the other believing that most of his symptoms were neurotic (hysterical or neurasthenic). He then consulted an eminent neurologist, who concurred in my diagnosis and recommended the septum operation. A few days later I performed a regular submucous septum operation under cocaine anesthesia, and I encountered something that I had observed only two or three times in my experience, namely, that he appeared as though in a cataleptic state. It was impossible to get a word out of him, although he was absolutely conscious. He would hold the head or hands in any position that I placed them. As soon as the operation was completed he became very talkative, and he spoke incessantly until late that night. It was first thought that this was due to cocaine intoxication, although he had none of the other symptoms characteristic of such a complication. After the night's rest and the removal of the nasal packing he felt much better. The septum healed perfectly. For the next three or four days the headaches seemed to be less intense, and he felt generally better. There was, however, one particular symptom noticeable to those about him, and that was of misnaming persons; however, immediately correcting himself. This was the first mental deviation from the normal. The next observation was his growing dissatisfaction with the members of his family, of whom he formerly was very fond, and his complaints were unfounded. By this time his attacks of headaches returned, as severe as ever, principally over the same area—fronto-temporal—but at times localizing on the right side. At this time he called me to his room, where he had an attack of severe head-pains, and a sudden vomiting spell. His tongue was markedly coated—he had not had a bowel movement for two days, in spite of cathartics. I expressed my opinion that these symptoms were very

suspicious of brain tumor. He then consulted the internist who had treated him three years ago, who, on account of the similarity of his former attack, diagnosed this to be a gastro-intestinal disturbance associated with a neurasthenia, but the same treatment which acted favorably three years ago gave no relief this time. He then went to live with his brother, Dr. Carl Beck, in order to be observed. The latter made the observation that the headaches were worse at night, and must have been very agonizing. Following the attacks he would fall into a very deep sleep, from which he could scarcely be roused. After a few days' stay at his brother's, he again became very dissatisfied, and became suspicious and unnaturally reproachful to several members of his family. In order to satisfy him, he was taken to his other brother, Dr. Emil's home. Dr. Emil made the same observations, namely, that following these attacks of headache he went into a deep sleep, lasting ten to fourteen hours. While thus sleeping Dr. Emil would call, make all kinds of noises, but could not rouse him unless he shook his body.

He was now put upon a starvation diet, and for forty-eight hours he ate absolutely nothing, but this had no influence upon the headaches.

On January 31, 1913, he was taken to a prominent neurologist who, after a very careful examination, would not make a definite diagnosis, but believed it to be a severe neurasthenia and desired to observe him.

On February 1, 1913, he suffered intense headache the entire night, and gradually fell into a comatose condition. Once he got out of bed, stood in the middle of the room and urinated on the floor. Dr. Emil observed that the patient, when returning to bed, was somewhat unsteady in his gait. He fell into the usual deep sleep, and now could not be roused even when shaking his body. The condition took on an alarming appearance. He would mutter incoherent words when urged to speak, refused food and drink, and recognized no one. There was a ptosis of both eyelids and constant lateral rolling of the eyes. The neurologist who had examined him the day before was hurriedly called, and after examination expressed the opinion that in the absence of a definite diagnosis it was perhaps brain syphilis, and advised the immediate intravenous injection dose of neosalvarsan. An expert in this work as well as a surgeon of note in brain surgery, and the internist who had previously treated him, held a consultation and agreed that while there was no positive symptom of lues, he should be given the benefit of the doubt and given the salvarsan. Although the patient was entirely unconscious, he resisted and showed great strength during the injection. After the injection he remained in the comatose condition. He retained fluids very poorly and had urinated and vomited once involuntarily. The temperature rose to 101 degrees, and pulse to 120. During the next night he suddenly appeared to

awaken from the coma and desired to get up and urinate, which he did. He also began to speak somewhat coherently. Next morning he began to recognize those about him, and now rapidly improved. The sudden change following the injection of neosalvarsan naturally strengthened our belief that lues was the cause of his trouble. We began at once to administer large doses of KI, 120 grains daily, until on the third day he received 380 grains, and two injections of cypridol. The patient began to eat and was the greater portion of the day free from headache, but the following night it returned with marked severity. After a few days he desired to go to a neighboring sanitarium. The first day he was well satisfied there; he would take his walks, although he constantly complained of headaches. On the third day of his stay at the sanitarium I was hurriedly called and found him in a severe attack of head-pains and fear of persecution. This night he was very restless, and on the following morning early he insisted on leaving this place, for fear of being unjustly dealt with. He now went back to Dr. Carl Beck's home, where he was again perfectly satisfied. Medication (KI) was discontinued, owing to gastric irritation. The next week he appeared to be improving, and planned a trip to Europe. The attending neurologist was now leaving for Europe, and since he required the services of another, we consulted such an authority. The diagnosis made by him was general paresis. This contradiction in diagnosis, his constant complaint of severe headaches, and his desire to leave the city, induced us to go to Philadelphia to consult some other eminent neurologists there. He made the trip East without any great difficulty and arrived in good condition. That night, however, he had very severe head-pains. The only remedy that he found any relief from except morphine was a hot water bag to the head, the degree of heat of which would be scarcely borne by anyone else. On the following morning we consulted a prominent neurologist who, after a very careful examination, made a diagnosis by exclusion of cerebral syphilis. The following day we consulted another neurologist of international reputation, and his diagnosis was paresis with very grave prognosis; however, he asked to have a spinal puncture as the corroborating test. A sanitarium treatment was recommended, and since we knew of a place that was near the place of my brothers' former home in Europe, I decided to take him there, especially since I was yet uncertain of the correctness of the diagnosis and wished to consult some European authorities, who might, after all, make a diagnosis of tumor with a chance for operation. On March 1 we left by way of a slow steamer from Philadelphia to Hamburg, and while the separation from his brother, Dr. Emil, caused him to be greatly excited, he was nevertheless in very fair condition. The first afternoon of our voyage began with the patient suffering very great head-pains, radiating over the whole head, but appearing to localize on the

left side and to the back of the head. This pain continued all through the night, requiring morphin to control it. Food and drink were refused and he slept for several hours the next morning. I, thinking it might have been from morphin, examined the eyes and found, however, that the pupils were dilated. I now decided that he could not stand the trip and, since the steamer stopped at New York, I transported him to a private hospital in New York City and called in an eminent neurologist. He unqualifyingly made a diagnosis of brain tumor and located it in the thalamic region in the anterior portion of the brain on the left side. He wished, however, to exclude syphilis and paresis by a spinal puncture examination. There was no possibility of obtaining a history from the patient at this time; also very unsatisfactory examination could be made. He was now absolutely unconscious. On the following day he cleared up somewhat, so that a consultation with an eminent brain surgeon and the neurologist was more satisfactory. Both agreed on the diagnosis of brain tumor. A spinal puncture was made, and the fluid was, under slightly increased pressure, of greenish tinge, but clear. The analysis of the fluid showed Noguchi globulin negative, cell count eight to the field, Wassermann negative, culture negative. Following the spinal puncture, the patient improved considerably. It was now decided to observe him further, for which purpose he was taken back to Chicago. He made this trip with considerable difficulty, was considerably weakened, and his gait became very unsteady. After arriving in Chicago he grew very much worse as to his head-pains. Another neurologist was now consulted, as well as a surgeon, with the hope that an operation might be performed. Both decided that an operation was useless, believing it to be a tumor, but of syphilitic nature. He now received another injection of neosalvarsan, which this time he permitted without any resistance. There was not the slightest improvement of his symptoms following this injection. On March 13 he grew violent and had to be restrained and given morphin. The following day he was very quiet and breathed quite superficially. He would not eat at all and appeared to be losing rapidly in strength. At seven o'clock p. m. he breathed shallow and fast, with a very deep inspiration about every fifteenth breath. At eight o'clock he suddenly had an attack as though he were suffocating, and attempts at artificial respiration proved of no avail. Death occurred at 8:20 p. m.

Post-mortem examination was made by a competent pathologist, and his report is here appended:

REPORT OF POST-MORTEM FINDINGS OF DR. RUDOLPH
BECK'S CASE, MARCH 15, 1913, THREE
HOURS AFTER DEATH.

After the calvaria had been removed, a normal dura was presented, and after its removal the pia arachnoid was found moderately congested, otherwise normal.

After the tentorium cerebelli had been severed on both sides an attempt was made to remove the brain.

A tumor was then felt at the base of the left posterior lobe. The tumor was about the size of a small hen's egg, felt nodular and considerably harder than the surrounding brain substance. On removing the brain, the tumor was almost completely torn away, because as now appeared the tumor was attached to the brain by an exceedingly slender pedicle.

Examination showed that the tumor sprang from about the middle of the inferior surface of the posterior lobe; in other words, from the floor of the left lateral ventricle. The brain pedicle presented some vessels which were still connected with the vessels of the choroid plexus of the left lateral ventricle.

The tumor is irregularly round, nodular and considerably harder to the touch than the brain tissue. It is darker in color than the latter, covered with pia arachnoid, and some vessels of moderate size can be seen on the surface.

The greatest diameter runs from before backward, and is $1\frac{3}{4}$ to 2 inches. The sagittal diameter from above downward is about $1\frac{3}{4}$ inches, while the width of the tumor from side to side is $1\frac{1}{4}$ inches. *In situ* the tumor was so located that it pressed upon the inferior and left lateral surface of the middle lobe of the cerebellum and also against the left side of the pons. Upwardly the tumor had pressed upon the floor of the left lateral frontal, and the brain tissue had here been softened considerably, so that it was torn into when the brain and tumor were removed from the skull.

The tumor is evidently solid throughout, and when small pieces were taken out for microscopical examination the cut surface and the whole character of the tumor gave the impression that it is a glioma.

Subsequent microscopical examination confirms diagnosis of glioma.

CASE 3. A man, aged 36 years, had been suffering with headaches for more than a year. These pains were not absolutely localized, but began in the frontal region and radiated towards the back of the head. One of the early symptoms was the loss of vision, in one eye, first towards the temporal side and gradually also to the nasal side, so that when I first saw him he had only light perception in one eye and the other totally blind. The next important symptom he observed was a staggering gait with a tendency to fall to the left side. There was a spontaneous nystagmus which was rhythmic and was horizontal as well as rotary. The examination of the fundus showed a double optic atrophy. The pupils were small and did react, but slightly. The ears were normal in every particular and turning, as well as hot or cold water tests of the vestibular apparatus, did not appear to change the nystagmus one particle. The remaining physical findings, including spinal fluid and blood examinations, were negative. Radiogram showed a distended sella turcica. Consultation with a competent neurologist confirmed my diagnosis of a cerebellar tumor, and operation was recommended. Exposing the posterior cerebral as

well as the cerebellar hemispheres, there was no evidence of any pathologic change. Intracranial pressure was not increased; pulsation was normal. Certainly no tumor could be palpated anywhere. Subsequent to the operation the patient developed a meningitis, and died ten days later. Post-mortem examination revealed a brain, grossly normal, but in the cerebral portion of the hypophysis there appeared an enlargement, the size of a hazelnut, which filled out a distended sella turcica. Examination of this growth proved it to be a tumor of the hypophysis (microscopical examination). The nystagmus which was present in this case, and rarely occurring with tumors of the hypophysis, was the one symptom that misled us. Had we been at this time familiar with the pointing sign of Barany, we would probably have been led to a correct diagnosis.

Of 8 cases of brain tumor, there was made a correct localization diagnosis in 5. This number does not include gummata. The pathologic types were cyst, osteoma or exostosis, fibrosarcoma, glioma. The locations were two in the motor area, one occipital (supratentorially), one pontine cerebellar angle, one fronto-parietal, one at base of frontal lobe. Five were operated on with a mortality of 75 per cent. In not one instance did the radiogram reveal the tumor. Spinal punctures were made in 7 of the 8 cases, and only in one was there any increase in pressure, and in all was a negative Noguchi globulin or Nonne test present.

TUMORS OF THE HYPOPHYSIS

Considerable progress has been made during the past five years in the pathology, diagnosis and surgical treatment in diseases of the hypophysis, especially since Cushing, Eiselsberg and Hirsch have so thoroughly elaborated this field. Of special interest is the aid of the radiogram in the diagnosis and the treatment by the intranasal route in the treatment.

In performing the following operations on cadavers, Horsley, Krause, Eiselsberg, Hochenegg, Chiari, McArthur, Frazier, (transnasal-orbital and sinus route); Loews, Halstead (supralabial transnasal route), and Kanavel, West, Citelli and Hirsch (transnasal and septum route), I found that for tumors confined to the sella turcica the nasal route, preferably Hirsch's modern method, is the easiest of performance; however, if the greater portion of the tumor is diagnosed to be located intracerebrally, the method of Frazier is best suited. The operation by way of the palate is certainly difficult of performance in man.

The cases which I have observed were several cases of acromegaly, and three other cases diagnosed only at operation or post-mortem. The previously cited case, erroneously diagnosed as cerebral tumor, as well as the two following supposed naso-pharyngeal fibro-sarcoma cases, illustrate the necessity of refining our diagnostic methods.

The cases of advanced acromegaly are, of course, easily diagnosed, but unfortunately not amenable to surgical treatment.

CASE 1. A man, aged 41 years, has for the past seventeen months had constant headaches across the frontal region, radiating backwards to the occiput. One of the first symptoms he noted was the rapid loss of vision in the left eye. During the last three months the sight of his right eye has also much diminished. The left eye had also turned outward about six months ago. About eight months ago his nasal breathing began to be impaired, and now he is compelled to breathe through his mouth. His nose was widened considerably between his eyes, and his whole face has assumed a larger size. An attempt was made to remove some tissue (middle turbinate) by a specialist, but the bleeding was so severe that he was compelled to defer the completion of the operation. The microscopic examination of the tissue then removed showed a small round-cell sarcoma.

Examination: Both nostrils were occluded posteriorly, and in the left nostril was seen a tumor, which bled very freely when touched. Post-nasal examination revealed the tumor filling out the entire naso-pharynx. Transilluminations, absolute darkness of both antra—but the frontal sinuses appeared fairly clear. The x-ray picture, antero-posterior, revealed both antra cloudy, but the left more so. The frontal and ethmoidal regions fairly clear. X-ray, lateral exposure, showed an obliteration of the sphenoid sinus and the sella turcica.

My diagnosis was sarcoma of the naso-pharynx, involving the antrum and sphenoid, pressing on the optic nerves.

Operation: Preliminary ligation of the left external carotid arteries. I employed the Löwe method of making an incision under the upper lip, severing the attachment of the nose from the apertura pyramidalis, and the cheeks from the superior maxilla, and thus raise the face. The septum in its entirety, the middle turbinate and ethmoidal labyrinth on both sides were removed. The tumor involved the ethmoid. In order to prevent the blood from flowing into the throat the post-nasal space was tamponed as soon as the tumor was removed from the naso-pharynx. When the tumor was removed from the sphenoidal region there were no evidences of the wall of this sinus, but instead there was a large cavity, in the bottom of which there were the dura and the optic chiasm. The antra on both sides were filled with a tumor mass of the same character as

that in the naso-pharynx. The patient regained consciousness for a few hours, and died on the third day from meningitis. Post-mortem was not permitted. The histological examination of the tissue removed revealed a small round-cell sarcoma. The question in the diagnosis is: Was this a tumor primarily of the hypophysis, or was this a naso-pharyngeal sarcoma with secondary involvement of the brain? I am inclined to believe it was the former, since the headaches and eye symptoms preceded the nasal obstruction symptoms.

This condition may be divided into three great classes, from the diagnostic and therapeutic standpoints, namely: (1) Basal fracture, (2) Fractures not including the base, (3) Combined.

In the basal fractures the otologist is frequently interested because of the symptoms referable to the ear. The bleeding from the external canal is considered one of the pathognomonic signs. The symptoms of irritation or loss of function of the internal ear are considered of great value in the diagnosis of this condition. X-ray diagnosis is of very little value when the fracture is confined to the base, or through the petrous portion of the temporal bone. In fractures of the remaining portion of the skull, symptoms of hemorrhage, especially from the middle meningeal artery, are the most important. It is here that the x-ray is of inestimable value in the diagnosis.

In the fractures involving both base and other parts of the skull, both mentioned symptoms will be manifest.

INTRACRANIAL HEMORRHAGE

These, aside from fractures, can usually be diagnosed when the history, the focal symptoms and the aid of spinal puncture are taken advantage of.

My experience in this class of cases has taught me that it is very easy to diagnose them, and that early operation gives most satisfactory results, both in fractures aside from the basal and spontaneous subcortical hemorrhage. The use of urotropin in large doses, as much as 150 grains a day, has undoubtedly aided in the treatment of basal fractures.

I herewith cite an illustrative case of each variety:

CASE 1. A man, aged 47 years, was overcome by heat and fell from his chair, probably striking his head on a stone pavement. He was unconscious when brought to the hospital, twelve hours after the injury. There was nobody present when he fell from his chair and, therefore, we could get no history as

to how he struck his head. Examination showed a marked facial twitch of his left side. The left leg and arm were in tonic contractions. The pupils were reacting normally, and there was no spontaneous nystagmus. No fundus change with the ophthalmoscope. X-ray negative. Pulse, respiration and temperature normal. A consultation with a neurologist, who suggested a spinal puncture, resulted in the diagnosis of hemorrhage into the left lateral ventricle, since the spinal fluid was bloody. He advised conservative treatment. I could not help thinking that the bleeding was cortical or, rather, subdural, most probably from the middle meningeal, and therefore decided to operate. I found a fracture of the internal table in the temporal region; the dura at this point was tense and bluish—discolored. On opening the dura I found a clot covering the entire half of the cerebrum and after its removal found the bleeding middle meningeal artery close to the base of the skull. By elevating the dura and passing a suture about the artery, I was enabled to stop the bleeding. Drainage by rubber tissue of the previously located blood clot and closure of the wound resulted in the recovery of the patient.

CASE 2. A man, aged 27 years, was brought to the County Hospital by a man who had run into him with his automobile, stating that the auto struck the man on the head, knocking him unconscious. By the time he arrived at the hospital he had regained consciousness, and only appeared a little dazed. The accident happened so suddenly that, when questioned, he stated that while he was loading some heavy barrels, one slipped and struck him in the head and caused his present trouble. He also stated that the barrel had a nail protruding on the side, and that that nail caught inside of his ear and caused it to bleed. Patient's story and that of the party who brought him in did not agree at all. Examination revealed a swelling on the left side of his head, which had a doughy feeling. There was no tenderness. There were no evidences of a fracture by palpation. The pupils reacted normally. No evidences of any twitching or paralysis of any part of the body, and the sensation appeared normal. The reflexes, with the exception of a slight right-sided Babinski, were normal. Vision normal. Hearing in both ears apparently normal. The left ear was bleeding quite profusely, and upon washing out the blood with great care with warm distilled water, a rent in the tympanic membrane and evidence of blood behind it was seen. The warm water irrigation did not produce any nystagmus. The x-ray picture could not be taken, owing to the time of the day that the patient was brought to the hospital, and at once the operation had to be done.

Under general anesthesia I made the incision over the greater prominence of the doughy tumor on the side of the head, from the frontal to the occipital bone. The swelling was an edema and not a hematoma. On exposing the bone there was a fracture extending from the frontal bone near the superior

orbital border, back below the superior curved line of the occiput. The separation of the fractured bones was one-sixteenth of an inch. From the middle of this fracture line ran several fractures in various directions, to the right and left. Fresh oozing was seen to come through one of the lower posterior fracture lines, so I removed this part of the calvarium to find the source of the bleeding. As soon as that was accomplished a very free bleeding was seen to come from the great longitudinal sinus region. Exposing the exact bleeding point of the above-mentioned sinus, I placed my finger over the tear and placed a purse-string suture about the opening. There was still a great deal of bleeding lower down, close towards the torcular herophili. Exposing this second tear in the great longitudinal sinus, I was unable to apply the same management as in the first, owing to its close proximity to the torcular. I therefore placed a suture to either side of the tear, placing a gauze sponge over the bleeding point and tying the two threads over the sponge. This stopped the bleeding. The wound was closed except over the location of this sponge. Patient lived for nearly thirty-six hours and the coroner's report revealed the ante-mortem findings.

The interesting point was the terrific size and extent of fractures and nevertheless the absence of any grave or marked symptoms of either irritation or paralysis.

CASE 3. A woman, aged 33 years, was thrown from a cable car and was picked up unconscious. She was bleeding quite freely from both external ears and inspection revealed rents in both the membranes. For the next four days there was a discharge of clear fluid in considerable quantities from both ears. While the patient regained complete consciousness, she could not hear the loudest noise. The patient received very large doses of urotropin, but the usual test for it in the clear fluid escaping from the ears did not reveal its presence. The copper reaction was positive as in normal cerebro-spinal fluid. After ten days, and while the patient was still absolutely deaf, but complained of being dizzy, although there was no evidence of any spontaneous nystagmus, I applied the caloric reaction, and very quickly obtained a compound nystagmus, first in testing one ear and then the other. Six weeks later the patient began to hear and after two months recovered almost complete normal hearing.

The consultation with an otologist in this case is worthy of mentioning since the authority made the positive statement that the patient would very likely die from meningitis and if she did live would be absolutely deaf, neither of which occurred.

CASE 4. A young man, aged 27 years, was run over by an automobile, the wheels passing over his forehead. He was brought to the North Chicago Hospital in a stuporous semi-conscious condition, and it was very difficult to arouse him. Both eyes and eyelids were suffused with blood. The right eye had an external strabismus and the pupil was dilated and

did not react. The fundus in both eyes was normal. Over the right eye and frontal sinus was a soft fluctuating swelling, but no crepitation or movable fragment could be made out.

X-ray showed a distinct fracture in three places right over the frontal sinus. My diagnosis was a fracture of the external table of the frontal sinus.

The patient received large doses of urotropin. The next morning he was brighter and answered intelligently some of the questions put to him. His vision was double. He complained of considerable frontal headache, although the pulse and temperature were normal. Spinal puncture negative; other laboratory and physical examination negative. Decided on operation. Under local anesthesia, as soon as the skin and periosteum over the right frontal sinus were incised, I encountered a soft mass, whitish in character, which by immediate examination (frozen section) proved to be cerebral structure. Removing all that was on top of the depressed fragment and lifting the same out, I found that both anterior and posterior walls of the frontal sinus, including the floor and supraorbital margin, were driven into the frontal lobes of the brain and displaced a part of the brain tissue in front of it, just beneath the skin and periosteum. Shaving off the mangled cerebral tissue, I attempted to bring the dura together and drained.

Patient made an uneventful recovery, including the disappearance of his diplopia and papillary paralysis.

INTRACTABLE TIC DOULOUREUX

The radical removal of the Gasserian ganglion for the relief of the severe neuralgias, devised by Hartley Krause, has for a time been checked on account of the great mortality from this operation, but recently, since the technic in brain surgery has been simplified, this procedure has received a new impetus, especially in the cases where all other methods have failed to produce relief. A more recent advance to produce result without the radical operation is the injection of the ganglion with alcohol. With this procedure I have no personal experience.

This condition has in the last four years received considerable attention because many cases were relieved of the severe pain for various periods of time by the injection of alcohol into the nerves. The reports, especially from the neurologist sources, from this method of treatment are flattering. It has been my experience with cases that I treated by this method that it was of slight benefit, at least so far as lasting effects are concerned.

I cite an interesting case in which the ganglion

was completely removed, but the patient did not receive the expected relief.

CASE 1. A young man, aged 26 years, had for the past year suffered a great deal of severe pain, which was distributed over the entire course of the trifacial nerve on the right side. When I first saw him I noted that almost all the teeth on that side had been extracted, and he had been treated by internal medication. The almost constant pain was so severe that the attending physician was compelled to keep him under the influence of opiates. The x-ray revealed nothing diagnostic, nor did the physical or laboratory examination explain the cause of this neuralgia. I first injected peripherally the supraorbital, infraorbital and mental nerves with full strength alcohol. This gave no relief. I then made a deep injection towards the base of the skull in the region of the foramen rotundum and ovale without any result. I did observe considerable resistance to the needle when I reached the skull base. I then resected the three nerves mentioned before and pulled them out of their foramen as well as from the soft tissues of the forehead, cheek and lower lip (neuraxeresis). This brought slight relief for about a week. After about two weeks of observation and then a consultation with a neurologist, who had declared that the patient was hysterical, in the worst form, probably wanting morphin (for which he begged pitifully), I decided to perform the resection of the Gasserian ganglion. I employed the method suggested by Cushing, namely, subtemporal resection of the zygoma. No difficulty was encountered in the technic. The middle meningeal artery bleeding was very easily controlled by pressure in the region of the foramen spinosum. The greatest care was exercised in severing the ophthalmic branch and not injuring the cavernous sinus. The posterior root being severed, the ganglion was removed, not entirely intact, but sufficiently preserved to find under the microscope that it was neuroglia structure, the same as a normal ganglion has. The patient recovered from the operation without any trouble, and for about three days did not complain of pain at all. Then he gradually began to cry from pain, now especially severe in the base of the tongue. In less than a week he would cry aloud, the same as he formerly did, and required morphin to control the pain. We now did decide that he must be a malingerer or hysterical, and he was told that he might leave the hospital. Two months later he returned, having been treated in the meantime by internal medication, with no avail. He now showed great emaciation and a tumor was seen below the right ear and under the lower jaw of the same side. This tumor was very firm to the touch and was not particularly painful. I proposed operation, but he refused, went home and by personal communication I heard that he was operated on by a general surgeon for the removal of a tumor of the base of the skull (sarcoma), and that he died within a day or two after the operation.

This case teaches that a removal of the ganglion

may not relieve the pain, and I have no explanation of it.

EXTERNAL HYDROCEPHALUS

Shortly after hearing the reports of L. I. McArthur on the operation for the relief of marked external hydrocephalus, a case of that nature came under my observation, and I decided to attempt the same procedure.

CASE. A child, one year and seven months old, had rickets in the severe form. It was never able to stand up and none of the special functions, such as sight and hearing, appeared to be developed. It never cried, and otherwise was very much malnourished. It could not lift its large head. It could move its legs and arms, and the reflexes were normal. Examination of the eyes, external as well as fundi and muscular movements, appeared negative, and the ears showed no deviation from the normal. When asleep the loudest noise would not awaken it, but irrigation with cold water in either ear produced a compound nystagmus. The general examination was that of rickets and the laboratory findings, including a Wassermann of the blood and cerebrospinal fluid, were negative. The spinal puncture revealed the fluid under pressure; otherwise it was normal.

Operation: A temporal osteo-periosteal flap was made on the right side, the size of four centimeters, with the base upwards and exposing the dura. A skin incision was continued downwards over the zygoma, in front of the auricle, and over the masseter muscles. A dural flap was made, with the base down, and the too sudden escape of cerebrospinal fluid was prevented by holding a sponge over this area. Making a sort of tube out of this dural flap and suturing it with fine catgut, its free end was implanted into the loose tissues, over the masseter muscles in the cheek. The osteo-periosteal flap was brought down and the entire skin incision united. Firm pressure bandage was applied for forty-eight hours, removing it at intervals of three hours, so as to allow an establishment of a flow. After the bandage was taken off there appeared a marked swelling over the entire side of the face, and on the fifth day an opening was established in the suture line, from which clear cerebrospinal fluid escaped. The discharge from this fistula continued for seven weeks, not decreasing very much. At this time the child developed a violent diarrhea and after three days died. No post-mortem was permitted.

ENCEPHALOCELE

The report of this most interesting case is made with the purpose of bringing out several new points in the pathology, diagnosis and treatment, with special reference to the temporal bone. This condition may be properly classed among the class of congenital brain cysts (not trau-

matic), with connective tissue walls, and directly communicating with the ventricles.

CASE 1. A baby was brought to the service of Dr. Emil G. Beck shortly after birth. He diagnosed the condition as that of congenital bilateral encephalocele (Fig. 1), with the following findings: No evi-



Fig. 1. Congenital Bilateral Encephalocele.

dence of hydrocephalus and otherwise normally developed and healthy child. On the eighth day after birth, without any anesthesia, punctured the cyst, resected the sac and replaced the protruding cerebral tissue. He then made a skin flap closure, postponing the possible bony flap to a later date. Primary union resulted and by the aid of artificial feeding the baby progressed, so that at the end of eight weeks it had gained two pounds in weight. Gradually there was a recurrence of the encephalocele, and the development of a hydrocephalus, which, in spite of repeated puncture and aspiration of from fifteen to twenty cubic centimeters of fluid, finally terminated fatally at the tenth week.

Post-mortem examination: The bones of the calvarium were very soft; the dura normal; the arachnoid and pia mater negative; no cerebrospinal fluid in evidence and the lateral ventricles appeared to be empty. In the occipital bone, close to the coronal suture, in the middle line, independent of the posterior fontanelle, was a defect, round and about one and a half centimeters in diameter. The meninges were continuous through this defect into the remaining sac (meningocele), which showed its previous operative interference, it being adherent to the overlying skin. The brain showed no evidence of any gross lesion, and the lateral ventricles contained a small amount of normal cerebrospinal fluid. The tem-

poral bone was removed for histological examination, to show what effect the presumed negative intracranial pressure had on the development of the



Fig. 2. Stereo-Radiogram of Encephalocele, Showing Foramen.

osseous and membranous structure of the labyrinth. A stereo-radiogram of this temporal bone showed the absence of the outline of the bony labyrinth, as

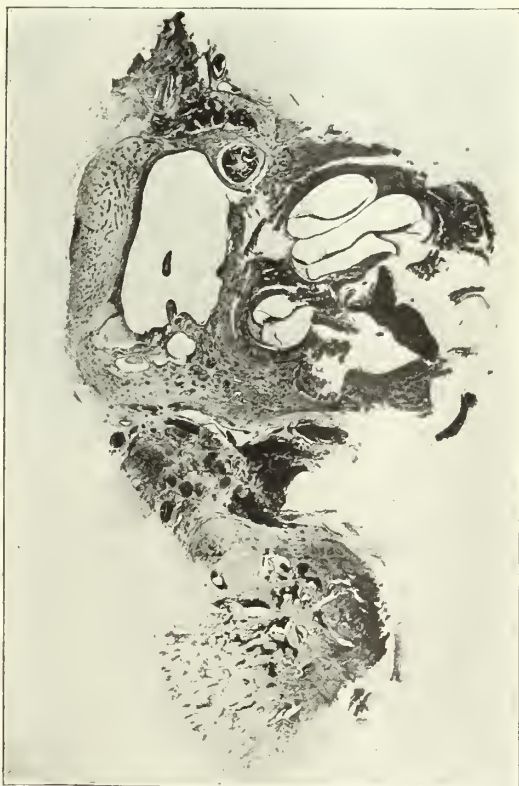


Fig. 3. Section of Decalcified Temporal Bone, Showing Poorly Developed Membranous Labyrinth.

compared to normal temporal bones of the same age examined. The stereo-radiogram of the body, after injecting the arteries with bismuth paste, shows very beautifully, as well as the general skeleton. The bony defect in the occiput is also well outlined. (Fig. 2.)

After decalcification and serial section of the entire temporal bone, it was demonstrated that the bony, as well as the membranous, portions of the labyrinth were deficient in development, especially the peri- and endo-lymphatic spaces, yet in the main the labyrinth was normally developed. The nervous elements show many defects and post-mortem changes, since the post was held at least one day after death. (Fig. 3.)

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AN ELECTRICALLY PROPELLED ROTARY CHAIN-SAW AND AUTOMATIC TREPHINE WITH ACCESSORY INSTRUMENTS*

EMIL J. HOGLUND, M. D.

CHICAGO

In the trend of progressive technology which has taken place in the surgery of the body, there has been most remarkable progress in brain surgery. This has necessitated the production of instruments better adapted for the removal of large bone flaps so that the brain can be examined easily for various pathologic conditions, such as abscesses and tumors. It has been found that the large bone flaps are returned to place by the healing process as easily as small ones and that in no way does the large incision of bone interfere with the patient's recovery and subsequent health. The greatest difficulty, however, has been experienced in the great expenditure of time and energy in making large openings through the skull with existing apparatus. Dahlgren's cutting forceps is slow and inefficient, and the de Vilbis modification, although more rapid, is still difficult to manage and upon the whole not entirely satisfactory. The Gigli saw, as well as the two preceding instruments, must be worked by hand, and are not wholly devoid of danger to the membranes of the brain.

Doyen's circular saw, with guard (1897), with later improvements by Bercut (1904), Borchart (1906), Bartley (1907), presents unusual difficulties, because of the depth to which it runs and because of its large diameter, which prevents one from turning corners and making curves. Cryer

*Read at a Meeting of the Chicago Medical Society, May 7, 1913, and the South Side Branch, May 27, 1913.

in 1897 invented a drill-bur with guard, and Sudeck (1900), not knowing anything about Cryer's instrument invented a similar one which he called an osteotome. The same instrument was again reproduced by Neff as a craniatome, with an especial original handle which can be held very firmly. Martell's French made osteotome is a very elaborate and heavy instrument. All of these instruments are made on the principle of Cryer's perpendicular drill-burr, with guards of various sorts, but they are all large, clumsy and heavy, and require extremely strong motors, weighing from 35 to 40 pounds. With the ordinary accessories they are too heavy to be carried around. These instruments are mechanically very elaborate, and they are so complicated that they require very skilled attendants, and so expensive, that they are little short of luxury. They cost from \$200 to \$300 with the motor. The drill-bur must be held very firmly in a perfectly steady position or the highly tempered steel will break off in the bone.

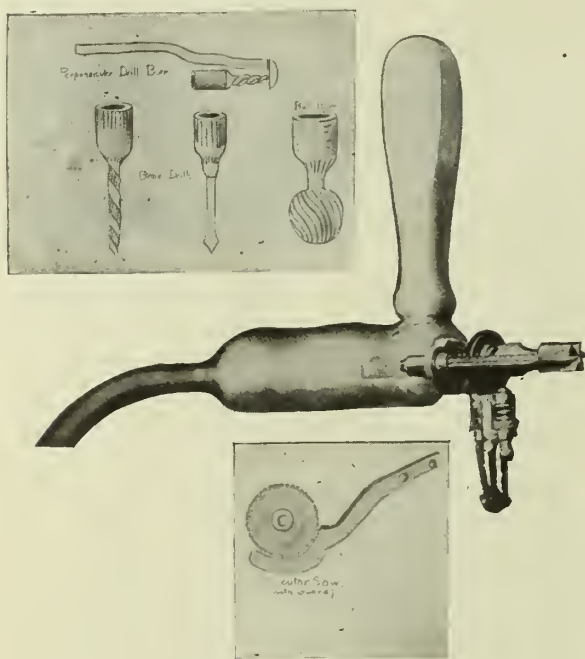


FIG. 1. CHAIN-SAW WITH ACCESSORIES.

The instrument which I present to this society tonight is a first demonstration of an electrically propelled rotary chain-saw, with attachments to be used in trephining and with accessory burs, drills and circular saw, to be used in other bone work.

The machine consists of an aluminum metal

handle through which a hardened steel shaft is revolving in hardened and ground steel bearings. To this shaft is attached at its distal end a specially cut and hardened steel pulley, two cms. in diameter, in which the links of the chain-saw fit accurately and which drives the chain about a small round bearing four cms. away. The chain-saw is protected from contact by a guard; a second adjustable guard, placed above, prevents the lower guard from depressing the brain. The saw edges at the lower guard are so close together, due to the smallness of the bearing on which it runs, that the saw can turn a rather short curve. The distance between the cutting edges is only 1 cm.



FIG. 2. AUTOMATIC TREPHINE IN ACTION.

The saw enters the skull through a trephine opening about 1 c.m. in diameter. The trephine is straight and attached to the end of the shaft. By a clutch so constructed that it is kept apart by a spring, but when pressed on the connection is made by the opposite flange and the trephine cuts through the bone, fed down by a thumb-screw attached to the side. When almost through the bone the trephine will automatically disengage itself and stop rotating, leaving a transparent boneplate from the vitreous part of the skull which is easily picked up or left in for the time being. This will prevent absolute injury to the dura mater when trephining which can be done

in a minute's time without stopping. The chain-saw cuts from within outward and deposits the chips on the outside of the skull.

By pulling the under guard upward against the vitreous part of the skull, the brain will not be depressed by the guard any more than by the use of the Dahlgren and de Vilbis forceps, and probably less. In starting the instrument the foot presses upon a switch, the instrument begins to revolve, propelling the chain-saw with great rapidity. The smooth surface of the guard presses down the dura, as the chain saw is directed forward along a pre-arranged line, so as not to injure the sinuses and yet cut out either a small or large circular shaped piece of bone as may have been decided upon by the operator. The bone edge can be made either *beveled* or straight, by tilting the instrument to any angle wanted.

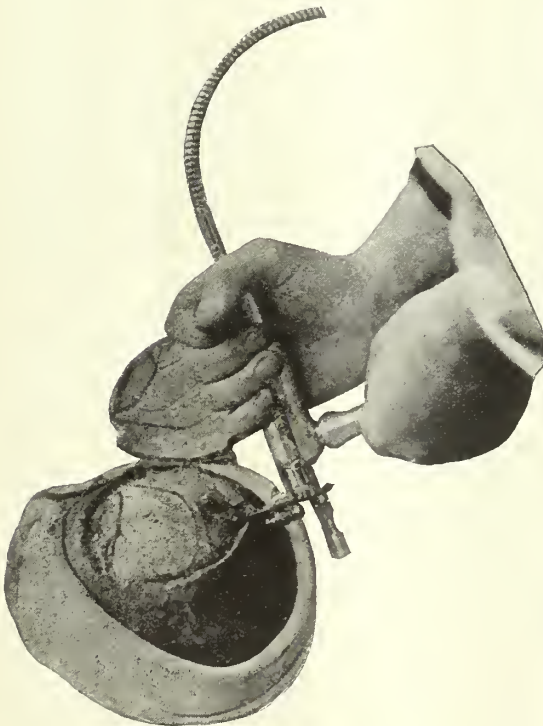


FIG. 3. CHAIN-SAW CUTTING BEVELED EDGE.

Drills, small trephines and burs, of use in enlarging a bone cavity, as is sometimes necessary in mastoid operations, can be worked with the chain-saw running. When it is necessary to use the circular saw, the chain-saw can be left on but it is best to remove the one that is not used.

The instrument is attached to the motor by means of a flexible shaft, at either extremity of which there is a universal coupling. The flexible

shaft and its couplings, as well as the instrument itself, is composed entirely of metals which can be sterilized by heat.

The motor is called a universal motor, that is, it can be used on either direct or alternating currents without special connections. It weighs only three pounds. It is hung on a strap over the shoulder of the operator and under the sterile operating gown. The connection is readily made by an ordinary plug and a long insulated wire to any lamp socket. At the operator's feet is placed the plate switch for stopping and starting the motor.

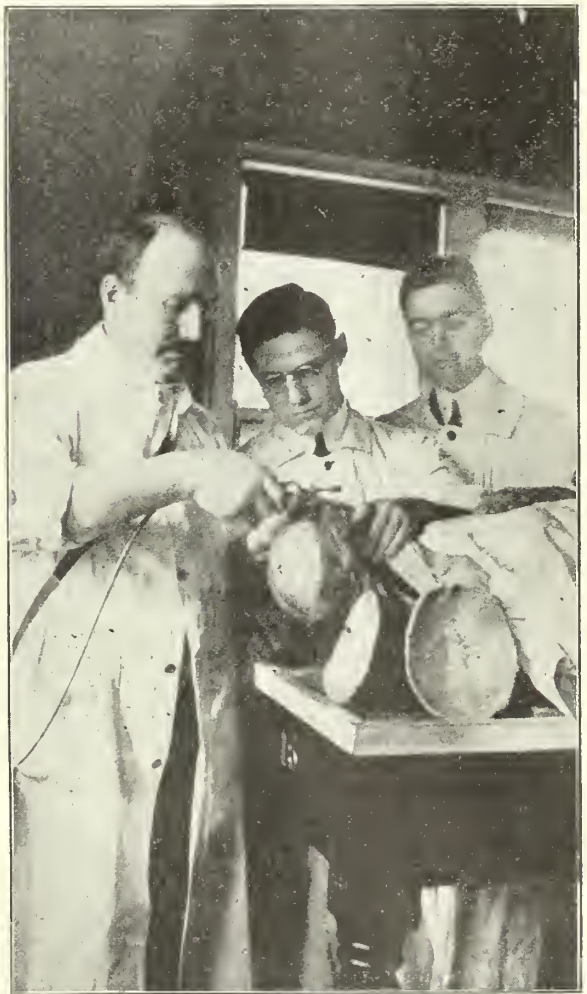


FIG. 4. REMOVING CALVARIA WITH CHAIN-SAW.

The instrument has been tested as to strength and I have sawed off three whole human calvariae at the same operation. The time consumed was about five minutes each, and there was no indication of breakdown. Should the chain-saw

break, another one can be replaced in a moment. Should the electrical current give out, the operation would be continued by using ordinary cutting forceps, as they fit into the groove made by the chain-saw.

The circular saw is useful in laminectomy, and in transplantation operations upon the bones. The ball bur can be used in mastoid operations and in cleaning out bone foci. The drills are available where holes are to be made in bones either for a suture or for the introduction of nails, or where the skull is to be perforated for intracranial exploration.

Conclusions:

This instrument will cut large flaps for brain surgery faster than any other instrument.

1. The flap can be beveled by tilting the instrument while cutting, thereby strengthening the union in healing.

3. It can be started and stopped instantly.

4. It causes the least possible injury to the dura and the brain.

5. It is portable and weighs not more than six pounds.

6. The instrument can be sold at about half the price of that of any of its predecessors.

7. No rheostat is necessary, and it can be attached to any current, direct or alternating.

8. It does not get hot, and delays for cooling off are not necessary.

9. It can make the bone flap edge either beveled or straight as desired.

I wish to acknowledge, with thanks, my indebtedness to Drs. Bensley, Harvey and S. A. Matthews, of the Anatomical and Physiological Laboratories of the University of Chicago, for their kindness in permitting me to try out the instrument.

6139 GREENWOOD AVE.

X-RAY MANIFESTATIONS OF GASTRO-INTESTINAL MOTILITY*

CHARLES A. ELLIOTT, M. D.

CHICAGO, ILL.

A thorough understanding of the motility of the gastro-intestinal tract has come to be a necessity for those who wish to interpret the Röntgenographic findings of this tract. At the present time no standard of what constitutes normal motility has been established.

In the field of gastro-intestinal motility, many new phenomena have been observed by Röntgen-ray experimentation. The evidence elicited is not at all in accord with many of the older accepted ideas of the motility of the tract, some of which must be discarded, and many recast, in the light of the numerous new facts observed by these means.

While much remains to be done, and the interpretation of many of the findings are still in dispute, yet a short review of the subject at the present time may be of interest.

It has been through the splendid radiographic work of Miss Alma Brindley, at Wesley Hospital in Chicago, that it has been possible for us at that institution to apply this method in the investigation of our cases, and I wish at this time to acknowledge our indebtedness to her for the technical assistance that she has so freely given us.

Following the leadership of such men as Holzkenecht, Kaestle, Haudek, Rieder, Groedel, and others in Europe, and Case, Dachtler, Crane, Lang, Thailer, Skinner, Cole, and others in America, there has been a general awakening all along the line. Gastro-enterologists everywhere are on the alert, keenly watching every advance in technique in the application of the Röntgen ray which may offer possibilities in this special field. I believe that we have only seen the beginning of a wonderful advance in precision in the investigation of gastro-intestinal phenomena by these means.

Of the Röntgenologic methods that are of value in the investigation of gastro-intestinal motility, the fluoroscope, the serial radiograph, the Röntgenkinematograph, and the newly described bioröntgenograph of Kaestle in Munich, each have their place. The fluoroscope and kinematograph, in investigating the more rapid movements in the oesophagus and stomach, the serial radiographic methods for the slower movements of the stomach and the mass movements of the intestinal content, while the bioröntgenograph of Kaestle promises much in the investigation of the motility of the colon, which is a subject that is at present but little understood.

The type of peristalsis varies greatly with the segment of the tract investigated, and contrary to the older views of peristalsis, there are a number of well recognized forms of gastro-intestinal

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 22, 1913.

movements which have been demonstrated, such as, for instance, the concentric, spasmodic contraction of the whole stomach, the lesser peristaltic movements of the stomach and colon, local circular muscle spasm of any part of the tract, and antiperistalsis, forms of intestinal motility which were entirely unknown, or only guessed at, before the perfection of the technique of Röntgenology as applied to gastro-intestinal investigation.

As to the motility in the esophagus, little need be said. The bolus of food slips down over the dorsum of the tongue and passes through the esophagus with great rapidity. Apparently the peristaltic muscular wave is assisted by gravity.

In the normal stomach one to three peristaltic waves, *i. e.*, the one, two, or three cycle type, may be seen in process of contraction at the same time after a bismuth meal. This varies greatly in pathologic conditions, may be totally absent in the atonic stomach, or much increased in the hypertonic types, which latter may show as many as six or seven peristaltic waves at the same time. The number of peristaltic waves, seen under these conditions at one time, apparently bears a direct relation to the functional activity of the stomach, being much increased in conditions associated with hyperchlorhydria and much reduced in atony.

Peristaltic waves follow each other in regular succession. Little or no peristalsis is seen in the fundus but is first seen in the pars media at about the junction of the middle and upper thirds of the stomach, the contractions become more distinct as they progress pyloruswards, and at the antrum form deep concentric contractions, which were formerly considered to form the so-called sphincter of the antrum, first described by the noted Canadian Beaumont in the case of Alexis St. Martin. That there is no real sphincter in the antrum has now been definitely demonstrated.

With the arrival of the wave at the pars pylorica, the pyloric sphincter allows a portion of the content to pass over into the bulbus duodeni. This relaxation of the sphincter is undoubtedly actuated by reflexes, such as that described by Hirsch and v. Mering, but there still remains much obscurity and confusion as to the exact operation of these influences.

Periodicity is a regular feature of stomach motility, alternating periods of activity and rest being present in both normal and pathologic

states. In conditions associated with pyloric stenosis the stomach may fairly writhe in its activity, whereas no motion at all may be observed during the periods of rest.

The greatest peristaltic activity occurs in the antrum, and in the event of pyloric stenosis the force thus applied results in a pouching out of the stomach wall about the pylorus, which pouching is often asymmetrical and is apt to be most marked at the distal end of the greater curvature, producing the so-called "prognathism" or "undershot" appearance of the antrum.

In addition to the regular peristaltic waves, above described, smaller contractions are to be seen in the wall of the stomach. These small, although rapid contractions, are evidently independent of the larger, regular, peristaltic contractions. Their exact significance is unknown, but they are supposed to aid in the mixing of the gastric contents.

Antiperistalsis is frequently seen upon the fluoroscopic screen. The waves start in the antrum and disappear in the pars media. Just what is the exact significance of this phenomenon is not known. It often occurs in pyloric stenosis, but may occur independently of this condition.

A peculiarity of stomach motility, only demonstrable by the Röntgen ray, is the tendency of the circular muscle fibres to contract, and remain in tetanic spasm, in segments, upon irritation, producing the so-called "physiologic hour-glass stomach." This is shown in the plate, as a sharp, deep, incisure in the greater curvature, which is more or less constant, and in the case of a pathologic lesion, such as a small ulcer, is in the segment of the lesion. Such sharp, more or less permanent contractions in the greater curvature have been described in certain general nervous diseases, such as hysteria and tabes dorsalis, but in these general diseases, the circular muscle spasm tends to vary in its exact location, which is not true of the circular muscle spasm due to local pathologic lesions in the stomach itself.

The physiologic hour-glass stomach, with its sharp, regular incisure, is in marked contrast to the "anatomical hour-glass stomach," with its more extensive involvement of the stomach structure, its less steep and irregular outline and irregular base, as found in carcinoma or chronic callous ulcer.

The irritability of the circular muscle fibres of

the stomach, thus demonstrated in the physiologic hour-glass stomach, is, to my mind, the analogue of the excessive spasms of circular fibres as seen in the esophagus, in cardiospasm and pylorospasm, conditions which have been known for a long time, without adequate explanation of their pathogenesis.

The evidence brought forth by Röntgenology tends to show that the circular muscles of the gastro-intestinal tract *everywhere* are easily susceptible of tetanic contraction, as a result of local or general irritation. To my mind an ultimate explanation of cardiospasm and pylorospasm seems likely as a result of Röntgen ray experimentation.

The hour-glass contraction is of great diagnostic value, for it is in the segment of the contraction that you are apt to find the lesion, and any irregularity of the stomach outline opposite such contraction may be considered pathologic (Houdek's diverticula). The more permanent the hour-glass contraction, as to location, the more certain it is to be evidence of a pathologic lesion in the segment of the contraction.

The time the stomach takes to empty itself is of the greatest importance, and, to my mind, it is only possible to determine this accurately by means of Röntgen ray methods, which are always definite and convincing, at least as far as this particular finding is concerned, whereas the tests to determine this by means of the stomach tube are notoriously misleading.

The stomach may empty itself precipitously, within a very few minutes after taking the bismuth meal under certain pathologic conditions, the average time in health being somewhere around three or four hours, while anything over six hours may be considered abnormal.

After all it seems probable, as Dr. William Mayo has long maintained, that the principal function of the stomach is its motor function, it being a sort of hopper, to receive food and pass it onward, its other functions, of digestion, etc., being secondary considerations.

I am convinced that there is no one position of the stomach which may be considered "normal," but that there is a great variation as to size, shape and position of this organ which may be considered to lie within the normal range. That the stomach dips down into the pelvis may not of itself be considered an abnormal condition. The

greatest variation as to this is observed in evidently normal individuals.

Evidence is accumulating that the stomach begins to empty itself immediately after a meal, and this regardless of the acidity of the stomach contents. In most of the series of plates studied, where the pylorus was at all patulous, I have found that within twenty minutes after taking the meal the head of the bismuth column had already traversed many feet of the small intestine, and often one cannot take a radiograph rapidly enough but that a considerable amount of bismuth has already passed the pylorus.

With the development of this phase of Röntgenology, the first portion of the duodenum (the bulbus duodeni), has received special attention, much of which has been undeserved, due to the fact that it usually stands out prominently upon the plate. The bulbus duodeni has a constant and definite appearance upon the plate, during the systole of the pyloric end of the stomach, any variation of which, within normal limits, should receive due consideration in the interpretation of the plate. It fills intermittently with bismuth immediately that the bismuth reaches the stomach, and bismuth may usually be demonstrated in the bulbus as long as bismuth remains in the stomach; sometimes it is demonstrable here long after all traces of bismuth have left the stomach.

The pyloric end of the stomach and the bulbus duodeni stand out prominently and distinctly, delineating the pylorus, during the systolic phase of peristalsis of the antrum, and any variation as to the ability of the pylorus to relax, or of the bulbus to fill, may often be made out.

While the bulbus duodeni is usually demonstrable upon the plate, as a characteristic shadow, yet even in normal conditions the stomach may be rotated upon its long axis, in such manner that the shadow cast by the stomach itself is superimposed over that of the first portion of the duodenum, rendering the pylorus and duodenum invisible.

The bulbus receives the intermittent jets of gastric content at each systole of the antrum, expanding with the impact, but as rapidly contracting, leaving little or no trace of its location when the peristaltic wave has passed onward.

The second and third portions of the duodenum are invisible under normal conditions. The bismuth column appears again first at about the

middle of the greater curvature, where the shadow cast by the jejunum is seen emerging from behind the stomach.

It is interesting to note that the uniformly dense shadow cast by the bismuth in the stomach and the *bulbus duodeni* is in marked contrast to the finely granular and much less distinct shadow cast by the bismuth in the jejunum and the upper ileum. Undoubtedly the explanation of this lies in the fact that the bismuth meal is hurried through the entire length of the upper small intestine in a remarkably short space of time, during which time the chyle is in intimate contact with the mucous membrane of the small intestine, the tube being collapsed, the surfaces in close apposition, and peristalsis extremely active. The shadow cast by the bismuth during this phase of its passage is indistinct, granular in appearance, and under normal conditions never homogenous or dense. It is only when the bismuth reaches the terminal ileum, or the caecum, that it again coalesces into a more compact mass which casts a homogenous shadow.

Under normal conditions, about one hour after taking the bismuth meal it begins to collect in a continuous column in the terminal ileum, which occupies a characteristic position in the pelvis, the so-called pre-cecal convolution extending upward from the pelvis to join the cecum.

Of late considerable attention has been focused upon the ileo-cecal valve, and there is a mass of radiographic evidence accumulating to indicate that this structure is of great value, performing the work of a true valve, it being able to withstand immense pressure, thus assisting in forcing the intestinal content in a positive direction and preventing the regurgitation of the content of the colon back into the ileum. Considerable evidence as to the competency of the ileo-cecal valve may be elicited by means of Röntgenologic methods. Immense dilatation of the cecum, with associated relative incompetency of the ileo-cecal valve due to the dilatation, with resulting stasis in the terminal ileum, may easily be made out in certain cases.

The competency of this valve would no doubt play a part in determining the flora of the terminal ileum, and in preventing gas from being forced back into the ileum. It is an interesting fact that while accumulations of gas are uni-

formly noted in the colon, it is rarely seen in the ileum.

The early arrival of the bismuth at the cecum, after its hurried passage through the small intestine, is indicated by a dense shadow, which begins to form in about an hour after taking the meal, and remains in this position for a relatively long time.

The course of the bismuth is much slower through the transverse and descending colon. Here it forms a more or less continuous column, with definite and distinct segmentation, corresponding to the sacculations of the colon. Normally at six hours all traces of bismuth have disappeared from the stomach, and the head of the bismuth column is at the hepatic flexure.

At twenty-four hours, the bismuth may be demonstrated irregularly over the entire length of the colon, with a tendency to collect in masses in the cecum and in the ampulla of the rectum. Just how peristalsis takes place in the colon is not known at the present time.

Evidently the chyle, in its passage through the small intestine, loses little of its bulk, but is thrown as a liquid, en masse, into the cecum, after which the process of absorption of the liquid parts takes place, during which process the content of the colon becomes gradually inspissated to semi-solid consistency. This process of absorption of the liquid elements of the intestinal content is an important function, when you come to consider not only the large amount of fluids taken by mouth but also, in addition, the large amount of gastric secretion which is passed on to the colon to be absorbed there.

Radiographic evidence points to the truth of the pat saying that, "we drink with our cecums."

It is very interesting to find that in health the appendix rapidly fills with bismuth, and again empties itself, when the bismuth column is in this part of the colon. It is easily demonstrable upon the radiographic plate when the shadow cast by the *caput coli* does not lie superimposed over it, whereas by using the fluoroscopic method the cecum may be manipulated away from the appendix, thus bringing it into view.

The splenic flexure seems to be about the only part of the colon that has a more or less fixed position, being held by the phreno-colic ligament, and even this is not always a constant point of fixation. Undoubtedly the colon, and also the

stomach for that matter, are to be considered mobile organs, varying their positions from time to time, without a definitely fixed position. Certainly the most varied and bizarre arrangements of the flexures of the colon may be demonstrated in normal individuals.

I am convinced that but little stress can be placed upon the varying grades of "ptoses," which have received so much attention of late, for almost every variety may be demonstrated in otherwise normal individuals. To my mind, only those ptoses which are associated with demonstrable mechanical interference, or with destructive stenosis, may be considered pathologic.

From radiographic evidence the colon may be divided into two parts, each with a distinct function, motility and nerve supply. The first, including the caput coli to the hepatic flexure, is evidently occupied in the process of absorption of liquids, is actuated by a nerve supply derived principally from the vagus, and its motility is manifested upon the plate by the so-called small colon movements, these evidently being small contractions of the circular muscles probably associated with the function of mixing the contents. The second, including the transverse and descending colon, is evidently occupied in the passage of the inspissated content analward is actuated by a nerve supply derived principally from the pelvic plexus, and its motility, as shown upon the radiographic plate, is that of a slow peristalsis, the exact movements of which have not been definitely described and which are closely associated with defecation.

The sigmoid and ampulla of the rectum form a receptacle at the terminal colon, which when filled with bismuth, has a definite and characteristically lobulated appearance upon the plate. The exact mechanism of the motility of this part of the tract is not definitely known.

Antiperistalsis has come to be considered an important factor in the motor function of the colon. Arriving in mass in the ampulla of the rectum, the bismuth may later be drawn back into the colon and distributed along its entire length, probably to the cecum itself. This can only be explained on the basis that the intestinal content is worked forward and back, by peristalsis and antiperistalsis, during the drying-out process, an observed fact not only offering a new foundation for a classification of constipation, but

also a ready explanation for many clinical facts observed in regard to the behavior of the large intestine.

DISCUSSION

Dr. William R. Cubbins, of Chicago: I think that one thing should be added in tests of bowel motility. I feel that a great many of them have been made with an empty gastro-intestinal tract. I am very much interested in the results of these tests where there has been no specific emptying of the tract, and the bismuth taken in a meal in such a way that the food will get to the jejunum in a solid character. The work of Cannon, published several years ago, in regard to this subject, showed that the stomach did not empty itself so completely when there were large particles as when the contents were fluid. And he also showed very distinctly that the jejunum did not pass the food on so rapidly when of a solid character. The constrictions were at different points, four to six inches apart, and there seemed to be no definite relation as to where they would take place. In between these two constrictions there was a marked churning back and forth of the food substance. In the radiograms that I have seen of the jejunum and stomach in these cases, nothing of this has been shown.

As regards the normal position of the colon, I believe that a perfectly normally located colon bears a definite relation to the umbilical region. I think that pictures of males with firm abdominal walls, before relaxation occurs, would show the colon in that position. I do not believe it is possible to find the colon in that position in the female type, where a lacing has been indulged in, because one set of organs must go down and the other must go up, or something of that kind occur. However, the thing that we are interested in is the question of what a displaced colon can produce, or if the displacement of the colon is the factor in dragging down the stomach. If the displaced colon drags down the stomach, then a short-circuiting of that colon to the rectum should allow the stomach to assume a posture that is normal, and that does not occur, or rather, I should say has not occurred in the cases that I have short-circuited. The fact remains that the stomach hangs completely into the pelvis in the cases upon whom I have made this rectal anastomosis.

The next question in the short-circuiting proposition is as to whether it would be of value to remove or leave the colon? In the cases that I have radiographed lately in which I have made short-circuiting operations, I find that there is a tendency of the contents of the rectum to regurgitate back into the ascending colon. Lane contends that the colon drags the stomach down. Rovsing of Copenhagen contends that the stomach has dragged itself down. Rovsing has raised and fixed the stomach to the anterior abdominal wall, and claims to have brought about complete relief of the symptoms of indigestion, and the various other conditions.

It remains to be seen just where the right lies between these two theories.

Dr. C. G. Grulee, of Chicago: It might be interesting in this respect to note a couple of findings that have been made recently in regard to the pediatric field. Ladd, of Boston, has taken radiographs of children with normal stomachs and found a very great variation in the length of time it took to empty the stomach. Whereas we have ordinarily thought that on breast milk the child's stomach would empty in two to two and a half hours, he has found one or two cases where it took as long as five hours to empty.

Another interesting series of observations are those of Pisek, of New York. One was a case of pylorospasm, and he tried to estimate whether the child should be operated on or not by the relation of the passage of the bismuth meal through the pylorus. He found in the normal infant the bismuth passed through in thirty to sixty seconds, whereas in the case of congenital pyloric stenosis there was practically no passage, or possibly only a very slight amount, and in the pylorospasm it was delayed according to the severity of the spasm.

COMPULSORY STERILIZATION AND SEGREGATION OF THE MENTAL DEFECTIVE*

H. M. CAREY, M. D.

ODESSA, DEL.

Mr. Chairman and Gentlemen: There is no problem of today any more important to the Government, the medical profession, or the public at large than this. The poet's statement:

"Ill fares the land to hastening ills a prey,

Where wealth accumulates and men decay"

is surely applicable to this question. I take it that reference is made not to the actual decay of mortal flesh of the individual man, but to the decay of the human race, and if ever any country faced this particular problem at any period of its history, our country is facing it today. I grant you, that the solution of this problem will not create a Utopia, but with its solution must come the solution of other problems bearing upon the institutions of our race, in its pre-eminent mastery of all things.

Further, "To thine own self be true, and it must follow, as night the day, that thou canst be false to no man." Each individual owes it to himself to take such steps as are necessary to protect his own posterity. Hence the reason for

the toil, the trials, the tribulations of the enlightened members of the human race, who are striving, in their brief span of life, to lay aside enough of this world's goods that their children and their children's children may reap the benefits thereof. For this reason exist the large corporations, the vast amount of money invested in insurance. What benefit is to be derived from all this struggle if the individual for whom the struggle is made is mentally defective, owing to a lack of care in the mating of his parents? In an eastern institution there is today an individual who has been endowed with an unlimited amount of worldly goods, and yet, through a hereditary taint, he is deprived of his liberty, is costing the state thousands of dollars, besmirching the lives of honest men, and but for the fact of a crime committed, owing to this mental defect, he would be at large to transmit his taints to posterity, through the coming generations.

There is not a single field of thought interesting the students of the day, with which this question of the mental defective is not intimately interwoven. "Hours of Labor for Women and Children," "The Health and Sanitation of Working Places," "The School and Education Problem in General," The Courts, Petty Criminals, Jails, Almshouses, Insane Asylums, Reformatories, "Better Housing Conditions," and the so-called "White Slave Traffic," are all closely related to this problem.

We are all familiar, to a more or less extent, with the "Mendelian Law," and we have heard of "Recessives" and "Dominants" until we have grown weary in listening. Each individual treating the subject evolves a new, fine-spun theory replete with more or less euphonious terms, but the facts still remain that the defective is here; that he is increasing, and with much more rapidity than the normal individual, and it is my purpose mainly to show the enormity of the problem, and what might be expected as a result of its proper solution at this time—to interest Mr. and Mrs. Common People in this subject, as they are not awakened to its enormity, for, when they are awakened, the cry for the proper treatment of these individuals will sweep from the coast of Maine to that of California, and from the Great Lakes to the Gulf of Mexico in an overwhelming wave. Those of us who are particularly interested in this problem, at this time, do not expect

*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.

to solve it through any personal effort, as the task is too colossal to be undertaken by individual effort. What we do hope to accomplish, however, is this awakening of the people en masse, and to follow the celebrated edict of Daniel O'Connell "Agitate—Agitate."

Glittering generalities are surely devoid of facts, consequently, I shall quote concrete examples.

The report of the special committee on the prevention of feeble-mindedness in New York state, which was most carefully prepared, after long investigation, states that there is at least one mental defective individual to every three hundred of the general population. This is a most conservative estimate. The report also states that the ratio is increasing rapidly.

In the state of Indiana, a study made in connection with 511 families, in which there were known to be mental defectives, yielded the following figures:

Total number of persons in 511 families, 1,924.

Supported in public institutions, 1,334.

Feeble-minded, 1,249.

Insane, 54.

Otherwise defective, 44.

Illegitimate, 267.

One or both parents defective, 1,024.

In the state of Pennsylvania, at this time, there are from 15,000 to 18,000 defective individuals who are not receiving care and attention. Some few years ago they constituted but a small percentage of the population. Today this has increased, partially due to the fact that we are better able to recognize the condition, but more particularly due to the fact that no restriction has been placed upon them, and that they have been allowed to multiply both within and without the bonds of matrimony.

Kindly bear in mind that this condition is a defect, not a disease. It is largely hereditary; it is incurable; it is increasing. It is costing the community more each year, and this cost continues to increase directly in proportion to the number of individuals. Also bear in mind the fact that once defective, always defective. Environmental conditions may be changed, the individual can be properly cared for; he is happier and better, but he is not cured. That the condition is hereditary goes without question.

Case 1. J. O. Father's grandfather an individual

of the "Barnaby Rudge" type—the village fool. Who has not seen numbers of this type? Father's father—feeble-minded. Father—owing to the fact that his father married into family of considerable mental ability—is a high grade imbecile.

This case—J. O.—a lower grade imbecile than any of the others in the strain. Father was raised in an institution in the west. At the age of 20 he was given \$25.00 and told to depart and make his way in the world. This feeble-minded boy is the result. Fortunately, the strain is liable to be limited to this one child, and yet it is impossible to tell the untold number of feeble-minded and otherwise mentally defective individuals who may spring from this one person if not properly cared for.

Case 2. A most beautiful example of mental deficiency. This case is costing the State today \$1,700.00 for the care and maintenance of those individuals who are receiving institutional care, and yet who can tell just how much this family is costing the community, aside from the institutional care? How many fires have been started by this family? How much time and attention have been devoted to it, by the charitable organizations? How much effort is being practically wasted, in order to keep this family up to the plane of the average individual?

Your attention is called to the fact that the condition is manifestly more grave in each generation. The condition is not only hereditary, but the offspring of every mentally defective individual is himself or herself defective. Given the mating of two such mentally defective individuals, and every single individual member of the offspring will be mentally defective, and of a lower grade than the parents. In proof of the fact that the condition is increasing, one has but to look at the family tree of any of these particular groups. How many families are found in the better walks of life who have more than one or two children? How many of this particular class with less than six—up to twelve, and even up to twenty?

Again, why should these individuals be segregated? If for no other reason than the selfish one of self preservation, or, if you wish to place it on a more lofty plane, the preservation of the human race.

Again, these individuals should be segregated because it is exceedingly expensive, in time, effort and money not to segregate them. One has but to point to the appalling record of the mental defective, in connection with the petty crimes. The large percentage of the petty crimes not only in the large cities, but in the rural communities, are committed by this class. I have a concrete

example in mind, of an individual, who spent the greater part of his life within a few miles of a public institution; though known to be mentally defective for years he conceived some fancied wrong done him by a family that had been most kind to him, and, after having been denied admission to the household, owing to some improper advances made to a young member of the family, he returned in the dead of night, set fire to the buildings, destroying from twelve to fifteen thousand dollars worth of property, jeopardized the lives of the family, and is still at large.

This large percentage of criminal cases is due to the fact that we have either not recognized our responsibilities or have hidden our heads as the ostrich, and refused to acknowledge existing conditions. Those of us who have not awakened to our responsibilities are not blameless, but how much to be censured is he who scoffs at the idea, and blatantly proclaims that the problem of feeble-mindedness is only a myth, and states that nature's laws will work out our salvation. Have your beautiful buildings, your magnificent boulevards, your colossal business enterprises arisen from copying the worst examples set before you? Improvement is the order of the age, and must be applied to the human race as well as its endeavors. These individuals should be segregated from the fact that it is not right or just to compel them to take their place in the struggle for daily existence in the every day world. The community should provide these individuals with care not only for their physical and bodily wants, but with protection from the aggression of their more fortunate fellows. Is it right or proper for these individuals to be allowed to roam at large, the tool of unscrupulous individuals? To force them into sweat shops, to work for a mere pittance?

So much for the enormity of the problem, what is its solution?

First, every case of mental defect should be reported, as it is just as important, even more so, to report these individuals as it is to report smallpox, scarlet fever, diphtheria, and a host of other ills to which human flesh is heir. The individual should, at the age of six, be placed in an institution for a period of observation, from six months to a year. Proved a mental defective, the individual should be segregated in the proper institution for life, with this proviso, that at the age of twenty, if the families can prove that they are

in position to properly care for the individual, he or she may be removed, provided first that the operation for the prevention of procreation shall be performed.

Along with this, we must have proper marriage laws—not only have them, but enforce them. Every individual applying for a marriage license should be compelled to produce evidence of physical, mental and moral health. Sterilization must be used as an aid to segregation.

The program as outlined would be lengthy and expensive, but not nearly as expensive as to continue our present methods. In our state, an outlay of \$25,000,000 would solve the problem effectually—a colossal amount, and yet, with all the money spent today for good roads, good capitals, jails and almshouses, an outlay of this amount for good citizens is surely justifiable.

INHERITANCE OF SOME OF THE ELEMENTS OF HYSTERIA*

CHAS. B. DAVENPORT, PH. D.

COLD SPRING HARBOR, N. Y.

Recently I have had an opportunity to examine the results of field study upon the families of 25 inmates of a girls' home. Not only the inmates, but many other members of the same fraternity, of the fraternity of the father and mother and their first cousins show a congeries of types of behavior that occur again and again with striking frequency. There is much feeble-mindedness; the commonest age test by the Binet test for these girls of 17 to 20 was 11 years. Epilepsy is common. There are 46 cases of insanity in the close relatives of the 25 patients, including three specified as typical maniac depressives and five specified as melancholia; there were four cases of suicide and one of paranoia; also 11 cases of senile dementia, two of dementia paralytica, and two of delirium tremens. Violent temper, *threats* of suicide, love of fabrication, impulses to steal and to set fire to buildings, profane and obscene speech, and great indolence are all associated with violent erotic tendencies. And all of these traits showed themselves to have a marked hereditary basis.

In considering the significance of this complex of symptoms, it soon appeared that we have here to do with many of the principal elements of

*Read at a meeting of alienists and neurologists held under the auspices of the Chicago Medical Society, June 23-25, 1913.

hysteria, without the striking motor symptoms frequently found in that condition. Indeed, the summary of hysteria as given by Jelliffe in *Osler and MacCrae's System of Medicine*, V., 825, quoting Schnyder, "the persistence in adult life of the childish type of reaction to the facts of life," agrees admirably with the findings in this study.

On account of the frequent association of violent temper and eroticism with feeble-mindedness in the families of these hysterical girls, I entertained the hypothesis that these characteristic traits would all prove to be like typical feeble-mindedness, *recessive* in the Medelian sense, i. e., be inherited as a biological defect. Upon analysis, kleptomania did, indeed, prove to behave as though dependent upon a biological defect, such that when, in the makeup of both parents, the determiner that makes for honesty is lacking it will be lacking in all the children, while if either parent is honest at least half of the children will be so also. But the two traits of violent temper and eroticism are inherited in a different fashion; namely as a Mendelian *dominant*. There is never a generation in the direct line that is skipped. Though one side of the house be without a tendency to such behavior while the other side have the tendency at least half of the children will have the tendency.

The behavior in heredity of violent temper and eroticism is therefore in striking contrast with the behavior of feeble-mindedness and we may designate the hysterical condition as one of feeble-inhibition in contrast to that of feeble-mind.

HEXAMETHYLAMIN IN OPHTHALMOLOGY.*

HARRY S. GRADLE, M. D.

CHICAGO

That hexamethylamin is to a certain extent an antiseptic upon its excretion into the urinary bladder has long been known and the clinical value of this fact is well established. It remained for Crowe in 1905 to show that the drug, after its ingestion by mouth, is excreted into other cavities of the body and there can exercise a bactericidal effect. His work was mainly in connection with the gall-bladder and the spinal cavity, and he was able to prove a complete sterilization

of these spaces by hexamethylamin alone. In infections of the middle ear and of the accessory sinuses of the nose, the drug has been used for some time by clinicians. But the good results following its use were but incompletely understood and there were no experimental facts to show any direct connection.

In 1909 I started to experiment with the excretion of hexamethylamin into the eye. The results I obtained were published in 1911 and will bear a brief repetition here. The drug, when excreted by the body fluids, undergoes a breaking down and is eliminated partly in the form of the drug itself, and partly in the form of formaldehyde. Chemically, it is almost impossible to differentiate these two quantitatively, and hence the eliminated product will be spoken of as formaldehyde, while the ingested drug will be called hexamethylamin. The chemical proof of the presence of formaldehyde is simple, but the quantitative reaction is extremely difficult. However, a comparative quantitative test is shown by the varying colors of the end reaction of the Hehner test.

The experiments were conducted upon rabbits, which were fed with varying amounts of hexamethylamin. At various lengths of time after ingestion, the anterior chambers were punctured and the aqueous thus obtained was tested for the presence of formaldehyde. The bactericidal powers of the aqueous were also tested. My experiments showed that formaldehyde is excreted into the anterior chamber in about two hours after its ingestion per mouth as hexamethylamin and that the maximum concentration is reached in about seven hours. For even twenty-four hours, its presence can still be proven chemically. The maximum concentration reached is about one part of the drug in ten thousand of aqueous. This concentration is markedly increased after puncture of the anterior chamber and the exact amount of the drug in the second or newly formed aqueous cannot be accurately estimated. The local use of mydriatic also increases the concentration, although not to such an extent. A miotic, however, causes less formaldehyde to be excreted than in the normal eye. Even the maximum concentration of aqueous was not sufficient to inhibit the growth of virulent organisms in the test tube although it was impossible to obtain a growth of virulent organisms in the eye itself

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913; section eye, ear, nose and throat.

after feeding the experimental animal with hexamethylamin.

The importance of these investigations is not in proving that we have a bactericidal agent in hexamethylamin that can eliminate an infection after its conception, but rather that a drug, well known as a powerful bactericide, is excreted into the eye and here has the possibility of inhibiting the advent of a serious infection. In other words, the experimental end will show that the drug can be eliminated by means of the aqueous and tears, but the clinical value of this drug will have to be proven by long continued clinical observation.

In the last three years I have used hexamethylamin in every case of ocular infection and in every case of possible ocular infection. I have no positive data upon which to base the result of my observations for you can easily understand how impossible it is to have definite proof of the prevention of an infection. In infections already established, hexamethylamin does not show itself to be of great clinical value and the results obtained from its use seem to be minimum. However, I believe it to be of some value in retarding the reproduction of the organisms already present and flourishing.

The great clinical value of hexamethylamin, to my mind, lies in its use as a prophylactic against infection. During the past two years I have had the local surgeon at one of the wire mills give large doses to every man immediately upon suffering a perforating injury of the eyeball. During this period of time, I have not had a single case of panophthalmitis develop where my instructions have been followed, and only one case of endophthalmitis septica. During the two years preceding, approximately three cases out of every ten lost the eye because of a panophthalmitis developing within the first forty-eight hours. This may be mere coincidence, but I believe that I am justified in attributing the results to the free and early use of hexamethylamin. Every single case of intra-ocular operation is given hexamethylamin for at least two days preceding and for four days following operation. Here, too, my results have shown a remarkable freedom from infection.

As is shown above, I have no positive data upon which to base my clinical views, but my own personal impression, gained from extensive clinical observation, is that hexamethylamin is a drug of

great value in ophthalmology. It is to be regarded as a prophylactic rather than as an antiseptic and many eyes that would succumb to infection can be preserved by the early and free use of this valuable agent.

THE ROLE OF THE TARSUS IN TRACHOMA.*

H. W. WOODRUFF, M. D.,

JOLIET, ILL.

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I once heard a well known professor of the practice of medicine say to his students that the presence of an organ or tissue could not be considered as among the causes of its disease. While this statement is manifestly true, the surgeon is very busy removing certain diseased organs and tissues which are not only not essential, but which in certain altered states are detrimental to the individual's well being. It is now well known that trachoma owes much of its treatment resisting reputation to a chronic tarsitis. We know that were the tarsal plates absent the later course of the disease and especially the complications would be greatly modified. The anatomical and physiologic importance of this dense fibrous tissue of the lids is evident. With the septum orbitale with which it is continuous, it forms an entire layer of the lid. It gives form and framework and proper density to this structure. It contains essential granular structures. It furnishes attachment for the lid muscles. It gives protection to the eyeball. On the contrary, when chronically diseased all of these functions may be altered and instead of protecting the eye it may become an actual menace.

Trachoma is unique among conjunctival inflammations. The most severe cases of gonorrheal conjunctivitis do not involve the tarsus at all. Papillary hypertrophy of the conjunctiva is found in connection with every long standing irritation of this membrane. It is found in simple forms of chronic conjunctivitis, in the conjunctiva exposed to trauma by ectropion, and after acute blenorrhea. Yet from none of these does involvement of the tarsus occur, at least primarily. On the other hand it is doubtful if any case of true trachoma leaves the tarsus un-

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913. Eye, Ear, Nose and Throat Section.

involved. If one were to have such an experience he would question his diagnosis. Raehlmann¹ says: "A series of clinical and histologic studies and my experience in the last ten years justify the conclusion that in inveterate trachoma there is an early development of trachomatous tarsitis which keeps pace with the various phases of the disease and has a decided influence on its course."

In other words Raehlmann believes that the cicatricial changes in the tarsus in trachoma are not secondary in the sense that they must follow the conjunctival change; but that they are secondary to the trachomatous tarsitis which is co-incident to the conjunctival involvement.

Trachoma is characterized chiefly by its chronicity, by its tendency to exacerbations and by its reinfections or secondary infections. This means that we do not always know why a trachomatous eye which appears to be doing well will suddenly become much worse.

Beard says²: "The fornices, especially the upper, are the store houses or reserve station of the trachomatous infection." "They often resist all medical and mechanical treatment. It is from these that start the relapses that have made the handling of these cases so discouraging." Beard further states that this is the site of most reinfections. I was early taught that relapses were due to the presence of some of these trachoma follicles which should be searched for especially far up in the folds. Then I would attempt to treat certain areas which were less cicatricial than others and imagine that I was removing the cause of the relapse. There are probably several causes for these recurrences, perhaps many; but until the specific cause of trachoma is known its pathology in this regard must remain incomplete. Reinfection as a cause can be only guessed at. Secondary infection I believe to be a more frequent cause than is usually supposed. I have lately seen a case of old trachoma lighted up by the presence of a foreign body beneath the upper lid. I have occasionally found the *Morax-Axenfeldt* bacillus to be the cause of relapses. Phlyctenulæ may appear in trachomatous eyes.

The favorable results which follow the re-

moval of the tarsus in old relapsing trachoma indicate, beyond question, that in some way this tissue itself, probably mechanically, is the cause of the exacerbation in the majority of cases with corneal involvement.

It is said that Heisrath³ in 1882 discovered the value of tarsal removal by accident. Desiring a piece of this tissue for histologic examination he removed a portion 4 mm. in width, and 1.5 cm. in length.

The laboratory findings were similar to those given above by Raehlmann, and in addition, Heisrath found that the trachomatous condition was much improved. This led him to perform the same operation many times and later to publish his results in 230 cases. Following him there have been many valuable contributions on this subject, notably "Kuhnt" who is the usual authority quoted in these cases. Also Blaskovics⁴, Wood⁵, Faith⁶, Claiborne⁶, Wootten⁷, and others.

It was not until Dr. Thomas Faith performed a tarsal excision on one of my cases at the Eye and Ear Infirmary that I became interested in the subject. The simplicity of the operation and the favorable result compelled my attention. Later I performed it about as he did on a number of cases in the following manner:

The usual site for the conjunctival incision is along the upper border of the tarsus. The position of this incision should vary according to the type of cicatrization.

In the normal state the conjunctiva can be scarcely separated from the tarsus. In many cases of old trachoma the conjunctiva is drawn over the tarsus down to the sulcus sub-tarsalis scar which is characteristic in the majority of cases. This has its prototype in the pterygium or symblepharon. Beneath this area the local anesthetic can be injected which assists in the dissection much as the mucous membrane is lifted from the nose in the sub-mucous operation. It is the work of a moment to continue this dissection around the border of the tarsus as closely as possible to it so that the musculature is not injured. The tarsal incision is now made between the horizontal scar which corresponds to the sulcus and the lid border. This can be done with knife or scissors. The piece removed usually seems strangely small when one considers the extent of the normal tarsus; but in these cases the tarsus is more or less shrunken and curved on itself.

1. Arch. of Ophth. XXXVI, p. 814.
2. Ophthalmic Surgery, P. 362.
3. Ann. of Ophth. VII., p. 372.
4. Zeitschr. f. Augenheilk., 1906. XV, p. 301.
5. Trans. Am. Academy of Ophth. and Oto-Laryn., 1911. P. 313.
6. Am. Oph. Soc. Trans.
7. Arch. of Ophth., March, 1910.

The wound is closed with silk sutures which are tied on the skin surface.

The important points are: 1. To remove the cicatrised and deformed part of the tarsus. This means all of it except that part close to the lid border. 2. Do not remove any tissue except the tarsus and the conjunctiva which can not readily be separated from it. Do not remove any muscular tissue with it. 3. Place the sutures so that there will be as little thread as possible to come in contact with the cornea. I prefer two or more mattress sutures, tying them near the lid border, on the skin, over gauze or rubber tubing.

I report the following cases because they are typical of the results in properly selected cases:

Case 1. Mary U., aged 19 years.

History of a sore eye for several years. Trachoma in left eye only. Mother has the same disease in both eyes. Patient has had treatment. At the present time she cannot open the eye as widely as the other and wants relief and improved vision.

The ptosis is very pronounced. Pannus sufficient to reduce the vision to 6/60. Removed the tarsus and overlying conjunctiva August 18, 1909, under cocaine anesthesia.

This is one of my best cases. The result was ideal.

The palpebral fissure was the same as the other which is normal. Cornea cleared up so that the vision was 6/10 with correcting lens. There has never been a single relapse from that day up to the present time and no macroscopical sign of pannus.

Case 2. Sadie D., aged 30 years.

Trachoma in both eyes with pannus. Patient says they have been sore for many years. Has a sister with the same disease, upon whom I have recently performed double tarsectomy with good results. March 2, 1910, I performed tarsectomy of one lid. This patient has never had a relapse in this eye, while they are frequent in the other.

I do not believe the operation should be done when the cornea is clear, no matter what the condition of the conjunctiva and tarsus may be. It will not usually do any harm, often will do good; but there is danger of corneal ulceration. This occurred in one of my cases at the infirmary. The patient was about well enough to return home. He had considerable ptosis and I thought for the sake of protection against future trouble I would remove the tarsus. A central ulcer developed in the cornea which left a small central scar. A patient with trachoma has one chance in two of escaping with a clear cornea. I think the bad result in my case was due to the suture. The operation should not be done where there is great atrophy of the conjunctiva. The favorable cases

are the old cases with pannus, ptosis and history of relapses.

I do not think that this operation should supplant the Hotz operation for entropion; but it relieves any lid-deformity due to tarsal contraction, especially with properly placed sutures. In only one case out of over fifty performed in the last five years have relapses occurred. This may not have been a properly selected case or the tarsal incision may have been placed too high. The patient has the relapses only in the one eye, the same operation having been performed in both.

In another case the lid was drawn upward more in one part than another. This may have been due to too much shortening of the conjunctiva, to the removal of part of Mueller's muscle or a suture placed too deeply in the muscle. Blaskovics of Budapest mentions the same experience and in a very thorough analysis of 165 cases of this operation, and correspondence with Kuhnt, has not satisfied himself as to the cause of this condition in every case.

ABSTRACT OF DISCUSSION

Dr. Frank Allport of Chicago: I desire to heartily endorse all that Dr. Woodruff has said. I am firmly convinced that in these old cases of trachoma the tarsus almost invariably becomes diseased and must be removed. Of course, in the more recent cases where the disease has not yet invaded the tarsus other means can be used. I am quite enthusiastic in the use of some of the various forms of grattage in such cases. I do not have many of these cases in my own practice, but I certainly saw a good many of them in Dr. Fox's clinic in Philadelphia. Dr. Fox uses a general anesthesia and seizes the margin of the lid with Darier forceps and rolls the lid up until the extreme angle of the cul-de-sac of the conjunctiva is well in view; he then grattages the conjunctiva with a toothbrush and a 1 to 2,000 solution of bichlorid of mercury and follows it up by rubbing every portion of the conjunctiva with a firm gauze sponge soaked in the same solution. I have seen his results and they are good, and I may say that my own results under similar treatment are also good. Of course, I wish to repeat what I said before, that where the tarsus becomes diseased it is necessary to remove this before a complete cure can be effected.

Dr. Sheldon Clark, Freeport: I had the privilege of assisting Dr. Woodruff in his operations yesterday, and I think the operation described is highly effective in many cases. Recently I had a case of chronic trachoma which had existed for some two years. There was pannus in both eyes, so that vision was for fingers about three feet in one eye, and in the other about 20-50 vision. I succeeded after about a year's treatment in clearing up the pannus in one

eye, but it persisted in the other, and was very dense. I did this operation, and in the course of a month the pannus cleared up very nicely, and the patient has vision that helps him greatly in his work. This patient "ran the gamut" of treatment and nothing proved of avail until the combined resection of the tarsal cartilage of the upper lid was made.

Dr. H. S. Gradle, Chicago: I have had very little experience with tarsectomy in chronic trachoma, but in the more recent cases of trachoma I have been using the method advocated by Fernandez, of Havana, with apparently good success, that is, massage of the conjunctiva with finely powdered sodium salicylate. I use it with a cotton swab, and I do not invert the lids at all. I have the patient look down and lift the lid over this swab, and with my finger on the outside and the swab on the inside, I get a very thorough massage, well up into the folds. The process seems to be of great value, though I have not done it long enough to give any definite statement.

Dr. L. Ostrom, Rock Island: I would like to ask what the result of this operation is in the cases of narrow fissure, entropion, and so forth?

Dr. George F. Suker, Chicago: I heartily agree with what Dr. Woodruff has said with regard to excision of the tarsus unless the cornea is involved. I believe there are two points regarding the operation of tarsectomy which should be carefully considered. The first is the exact coaptation of the conjunctiva to the remaining ciliary edge after the tarsus has been removed; the other is to so fix the replaced conjunctiva at certain points to act as a substitute traction line for the tarsus, in order to avoid a subsequent entropion as a result of retraction of the transitional folds. This may be easily avoided if after the conjunctiva has been fixed to the ciliated border by placing two sutures at inner and outer third of the upper lid at the former upper border of the tarsus, passing the sutures from the conjunctival side and tying the sutures on the skin surface, thereby permanently fixing the conjunctiva at these points. In this way you obtain a point of traction for the transitional folds and will avoid subsequent cicatricial entropion, which sometimes ensues from the tarsectomy. I believe it is very important to avoid any sloughing of the cornea in placing the sutures at the ciliary border. In order to do that, I have found it very expedient to simply employ one suture, a long thread, which I insert about as follows: After I have excised the tarsus as well as can be done, and just left sufficient at the ciliary edge to make it a bank to which I can approximate the conjunctiva, tie a very large knot at one end of the thread and start at either canthal end of the lid to make, as it were, a subconjunctival suture, in and out of the conjunctiva and the ciliary edge of the tarsus. By doing this you have one long suture through the folds of the conjunctiva and the edge of the tarsus, and no portion of the suture touches the cornea. Tie the other end of

the suture, by drawing it tightly over a small pledget of cotton or rubber tube, and leave it in for four or five days. All you have to do then is to cut one knot and withdraw the suture.

It is the only satisfactory operation to perform in these old chronic cases of trachoma. I would never advocate it in any acute or subacute trachoma, but certainly in those cases where the cornea is involved, with extensive pannus and the tarsus is beginning to act as a friction body on the cornea, it will relieve that condition entirely, and act as a fairly good substitute for the Hotz operation. It can never replace the latter in entropion, but in cases of chronic trachoma, where entropion is not very marked, the results from this procedure have been satisfactory in my hands in that it did away with the entropion and trachomatous complications.

Dr. Frank Brawley, Chicago: I would like to say a word regarding the danger of corneal complications following this operation. In St. Luke's Hospital, Chicago, we have never had such an experience, and yet I think Dr. Wood has done probably as many of these operations as anyone in this country. But we did have the experience in one case of finding, when the case was prepared for operation, that a corneal ulcer appeared and was only noticed when the case was brought to the operating room.

I think that possibly some of the cases with corneal ulcers have been, you might say, accidental. I had the pleasure of seeing a great deal of Kuhnt's work, and he never was in doubt as to the advisability of operation in a case, and he paid no attention to the corneal complications—in fact, he seldom had such a thing. In our work we use a pyoktannin catgut suture instead of using silk. This suture is softened in the conjunctival secretion and produces no abrasions of the cornea.

Dr. Woodruff, closing the discussion: I do not feel quite as certain as Dr. Allport about this being the only proper operation in old cases of trachoma, and I have endeavored in my paper to be conservative.

I have nothing to say regarding the treatment of recent trachoma with granulations. So long as nothing definite is known of the cause of trachoma, any treatment that will get rid of the granulations is all right.

Regarding Dr. Ostrom's question as to operation being indicated when the fissure is narrow, those are just exactly the cases in which the result is the best, I think, where there is ptosis, where the lid is drooping, so that the patient really has a marked deformity. If there is any one thing that this operation will accomplish better than another it is that—the cure of ptosis.

Regarding the question of sutures and also Dr. Clark's reference to the case operated on yesterday, a condition of affairs was present there which I think perhaps should have contradicted that operation, or, rather, I think the Hotz would have been a better

operation. It was a case of entropion, but the patient really had very few eyelashes left, and looked as though his lid had been scalped. Had it not been for the fact that I was presenting this paper today, I think I would have done the Hotz operation in this case.

I performed a tarsectomy, and after the sutures were thus placed the lid was drawn upwards too far. In attempting to close the eye a portion of the eyeball was exposed, so that I removed the sutures and dissected the bulbar conjunctiva, and left the sutures out entirely. I have never done this before, but some operators advise leaving the sutures out in all cases. At least leaving them out in this case relieved that deformity.

THE RELATION OF LOCAL DISEASE OF THE EAR TO SYSTEMIC DISEASE*

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BELLEVILLE, ILL.

The recent progress in diagnosis and treatment of diseases of the ear and the broader observations and study given to this subject by the senior students of medicine and by the general practitioners makes positive the great relative importance of this organ when diseased to the rest of the human anatomy.

We all know that the five senses are the major adjuncts to the development of the mind. To be deprived of any one of them in childhood is a great misfortune. The association of hearing and speaking are so closely related that the conservation of the auditory apparatus is one of the greatest obligations the medical fraternity owes to the human race.

In considering the systemic or complicating conditions succeeding the diseases of the ear we must give some attention to the relative anatomy whereby the primary infection takes place. The various circumstances favoring the occurrence of primary infections in early life are that the eustachian tube is shorter and wider than in adults, while its tympanic orifice occupies a lower situation in reference to the level of the floor of the tympanum than in the adult.

The pharyngeal orifice is also situated somewhat nearer to the corresponding choana and oral cavity than in adults, thus bringing the tube more directly under the influence of the air borne and deglutitory influences, so you can readily understand why the act of crying, retching, sucking and vomiting tend to force air to the cavum tympani and thus infect it.

The progress of the disease is influenced by the mode of transmission, whether vascular, contingent, neurotic or lymphatic. The most important of these are the vascular and contingent because of the fact that the blood supply of the middle and internal ear is in close relation to the larger blood vessels as the internal jugular, external jugular and the intracranial vessels.

Therefore when an infective organism gets into the blood it is very uncertain in what distant organ it will be deposited; there to set up inflammatory processes and pathologic changes.

By contingent we mean the slow degeneration of the walled-off area of cicatrization around the foci of infection and gradually encroachment on some of the vital parts which are in close relation, as the brain, facial nerves, lateral sinus. This mode of progress is most important in cholesteatoma, chronic suppuration and the benign pathologic changes.

The relation of the ear to the great variety of nervous diseases is far more important than has previously been thought, and the neurologist and otologist are doing more conjoined work and getting better results than has ever before been shown.

For instance, deaf mutism is generally due to a break or non-development of the association fibers in the brain and is generally followed by mental deterioration. Deaf patients are more liable to insanity than ordinary persons, for deafness favors the onset of auditory hallucinations. Even a sane person who happened to be deaf sometimes suspects bystanders, taking advantage of his infirmity, are talking about him. The transition from this condition to an insane delusion is comparatively simple. Auditory acuity is not uncommonly diminished in cases of dementia and in certain cases of general paralysis of the insane. In fact, in some cases of the latter disease deafness is noticed by the patient's friends as one of the earliest symptoms.

The cases which present auditory symptoms the careful observer has no difficulty in referring to an affection of some part of the auditory apparatus, but there are other morbid conditions whose etiology is primarily independent of any ear affection and yet where the auditory phenomena form a large part of the clinical picture.

In the following cases where symptoms such as deafness, tinnitus or vertigo may occur they are really symptomatic of underlying intracranial vascular lesions, viz., as hemorrhage, embolism, thrombosis and intrapontine hemorrhages; most of the intracranial tumors, the most important of these being of the cerebellum.

In dealing with the pus organisms that infect the ear we find almost every variety, some which infect primarily and a great number secondarily to some other disease. For the purpose of showing how great the percentage of primary infections which end in general constitutional breakdown is, I shall give you the report of Whitehead of a hundred cases of fatal middle ear suppuration. Twelve of these cases were tubercular infections of the middle ear; nine of them occurred in children under two years of age and in eight of the cases the disease appeared to be primary.

The air borne diseases are most frequently met with in infants or young children, but after the fourth or fifth year these conditions are less frequent.

Great stress is being laid by the internist upon

*Read before the St. Clair County Medical Society, September 3, 1913.

the infections of all the accessory sinuses, for he realizes that it is almost hopeless to try and cope with the constitutional diseases when there is a focus of infection constantly adding to the system what they are trying to overcome. When you have a constitutional disease which occurs some time after or at the time the patient has a discharging ear you will find you get better results in the treatment of the disease after you have cured the ear.

By being a little more thorough in the history taking of adult patients and always making inquiries regarding aural diseases in children you will bring to light a number of cases of ear diseases which would otherwise be overlooked.

THE RELATION OF THE EYES TO THE NOSE AND ACCESSORY SINUSES IN DISEASE*

L. J. HUGHES, M. D.

ELGIN, ILL.

In taking up the subject under consideration and trying to say a few words concerning it I am doing so with a full knowledge that what I may say is nothing new as far as present knowledge of the relation between the eyes and sinuses are concerned, but rather that I may illustrate some points on the subject that may be a little obscure to the general practitioner and in that way help him in some of his apparently obscure or obstinate cases.

The importance of the relation between the eyes and nose has been dwelt on for the past ten years approximately and as the subject is more carefully watched and the relations analyzed, new things come up for consideration all the time.

It has been my privilege to observe during the past three or four months several very interesting cases bearing upon the subject and in the relation of those cases I will try to bring out the more important points.

Anatomy—In looking up the anatomy of the orbit and sinuses the first thing that strikes one's attention is the close relation of parts. Beginning with the frontal sinus we see that the floor of the sinus forms the roof of the orbit extending down in some cases on the inner side for about one-fourth or in extreme cases one-half the distance of the inner wall of the orbit. On the inner side of the orbit the upper portion is formed, as before said, by the wall of the frontal sinus and lower from before back by the nasal process of the maxilla, the lachrymal, os planum of the ethmoid and the body of the sphenoid.

Below, the floor is formed by the maxilla with the orbital process of the palate bone behind and a small part of the malar in front. As you can readily see, below the maxillary sinus practically forms the floor of the orbit and extends as far over as the

sphenoidal fissure. Then we have surrounding the eye on all sides sinuses which are subject to a variety of inflammatory conditions. Above, the frontal, nasally, the ethmoid cells and middle turbinate and posteriorly the sphenoid sinus; below, the maxillary.

The varieties of inflammatory conditions may vary from purely pressure symptoms to an active suppurative condition, and there may be a gradual change from one to the other.

Symptoms of Sinus Involvement—In classifying the symptoms of sinus involvement I would divide them into two main classes—pressure or apparently non-inflammatory symptoms, and distinctly inflammatory.

Under the pressure symptoms may be mentioned headache, neuralgia, nausea and vomiting and a variety of muscular irregularities. Headaches are usually of two main types—frontal and temporal, and occipital. Of course, there may be headaches due to involvement of the eyes through refractive errors, but they may as a rule be distinguished by the fact that sinus headaches are more often present in the morning than in the afternoon and refractive headaches just the reverse. I will say here that in the normal sinus there is a natural opening which as a rule may be stated to be placed at the junction of the upper and middle third of the sphenoid and maxillary sinuses and in the frontal about one-eighth inch above the floor of the sinus. You can readily see by this system of drainage that if the sinuses are once infected that it is going to be a hard job to again rid them of the infection because there is always the tendency for retention of secretions.

Eye headaches come on after the use of the eyes and are produced by the fatigue following the effort to continually correct some error of refraction. Occipital headaches are usually caused by pressure in sphenoid sinus and then clear up after ventilation of that sinus, as one case will show. Neuralgia may be classed under headache if you like, but very often there appears to be an involvement of the supra-orbital nerve which is apparently secondary to sinus involvement and will clear up after the sinuses are taken care of properly.

Nausea and vomiting may be caused indirectly by pressure or inflammatory conditions which involve the ocular muscles and reflexly the vagus. The ocular muscles are very prone to become involved by inflammatory conditions in the frontal or frontal-ethmoidal region and it is always well to watch out for inflammatory conditions in the regions when there is a persistent headache lasting all day with apparently little cessation in severity and increasing with use of the eyes.

Under the inflammatory class may be mentioned involvement of the cornea, the ciliary body, the uveal tract and the optic nerve.

Involvement of the cornea usually occurs in a greater number of cases in involvement of ethmoidal cells and middle meatus of the nose, although it may occur with any of the other sinuses, particularly the frontal or maxillary. The ciliary body may be in-

*Read before joint meeting of the Kane County Medical Society and the Aux Plaines branch of Chicago Medical Society, August 7, 1913.

volved from the same cause, as also the uveal tract.

Involvement of the optic nerve more often results from inflammatory conditions in the sphenoidal sinus, as we saw the body of the sinus formed the posterior portion of the inner wall of the orbit. The optic chiasm lying upon the body of the sinus and the nerves passing around it, it is not hard to imagine the comparative ease with which it can influence the nerve.

Just how the distinctly inflammatory type of symptoms and conditions is produced is not clearly established; that is, whether the inflammation travels through the bone to the surrounding parts or whether it travels through the blood or lymph currents, or probably both; but the fact that the inflammation is usually confined to the surrounding parts would lead one to believe it travels by continuity of tissue. Besides the above enumerated conditions there are various reflex nervous conditions which are attributable to the sinuses.

Diagnosis—It is not always an easy matter to make a positive diagnosis of sinus involvement, especially when there are only pressure symptoms present, so that we can only say in some cases that sinus involvement is present by taking all the symptoms collectively and feeling certain we have pressure. In other words, a sort of intuition.

I would say to all those present who are capable of making an examination of the nose, that in every patient coming to you complaining of involvement of the head or eyes, that you make a thorough examination of the nose. You may find large hypertrophied inferior turbinates which cause headaches and pressure symptoms, as one case will show, or higher up a bent and crooked septum which may easily excite reaction, as another case will show. Higher still you can see the middle turbinate and there should be a fair space between the turbinate and outer wall and between it and the septum. If not, there is great probability of pressure and retention in the ethmoidal cells or frontal sinus. Aside from the purely objective findings in the nose may be mentioned:

Headache—This may be either frontal, temporal or occipital and the frontal headaches may be caused by either sinus involvement or refractive errors. Occipital headaches are usually caused by involvement of the sphenoidal sinus.

Dizziness—Frequently there occurs with sinus involvement a condition of dizziness which is produced when the patient stoops over and raises up suddenly.

Tenderness—With involvement of the frontal-ethmoidal cells or both there develops a point of tenderness at the inner angle of the orbit which is almost diagnostic in itself.

Smell—Frequently in involvement of the ethmoidal region there is a diminution in the sense of smell as the olfactory nerve is compressed by the swollen ethmoidal cells and if the pressure continues will ultimately disappear.

Pus in the nose, of course, is positive evidence of involvement of the sinuses. Pus draining down over

the middle turbinate comes from the frontal or anterior ethmoidal cells, while pus draining posteriorly into the naso-pharynx comes from the sphenoid sinus or posterior ethmoid cells.

Trans-illumination is of value in some cases in helping to establish a diagnosis, although unless it is used by one who knows how to interpret the findings it is often misleading, as the novice will often take the skin illumination for sinus illumination.

X-ray is of great value in these cases, as the sinus will show dark if there is only an inflammatory condition present as well as true suppuration.

Case 1. Maxillary Sinus. Mrs. W., aged 33 years, came Nov. 14, 1912, complaining of pain in left eye, marked tenderness, sensitive to light, difficulty in sleeping for pain. Examination of the eye revealed ciliary tenderness quite marked, a marked tenonitis over left external rectus with small corneal infiltration at bottom of cornea.

I elicited a history of attacks of rheumatism and began treatment for that as the causative factor. Treated eye for several days, when I found that some eight years before the present attack she had trouble with a tooth on that side and I immediately began to investigate. I found marked tenderness over the maxillary sinus and trans-illumination showed dark. I immediately did a puncture of the sinus and by the time I removed the trocar pus was streaming from the sinus. From that time on I directed my treatment to the sinus and recovery was uneventful. She has since had another mild attack, but irrigation of the sinus cleared up the eye almost immediately. I have advised making permanent drainage if she suffer from a recurrence.

Frontal. Case 1. Miss G., aged 18 years, was referred to me by her family physician for severe headaches. She wore glasses and thought probably she needed a change. I refracted her under atropin and gave her what she needed in refraction and trusted the headaches would disappear. She wore the glasses with some relief for some time, when she again returned, complaining of the headaches being worse. She was unable to do close work at all, could not ride the cars without a sick headache and was miserable all the time. The headaches were as bad in the morning as during the day or evening and so I directed my attention to the extrinsic muscles. I found she had all the phorias possible almost, as the internal rectus, superior rectus and oblique muscles were at fault. I tried to relieve her by the use of prisms, but without avail and so directed my attention to the sinuses. I found on pressing over the inner wall of the orbit on the right side marked tenderness. She also complained of dizziness on bending. Trans-illumination was negative for frontal and ethmoidal and the fundus at this time was quite granular. An X-ray plate showed involvement of the frontal-ethmoid region of the right side. Examination of the nose showed some obstruction by the middle turbinal high up. Operation advised and accepted. I removed the middle turbinate and thor

coughly curetted the ethmoid cells down to the cribriform plate.

Result of operation: In ten days the headaches had entirely disappeared and she is now the most pleased and comfortable person I know.

Case 2. Dr. B. complained of severe pain in left eye and attacks of frontal pain with marked prostration followed later by profuse discharge from the nose, and clearing of the eye symptoms.

I saw him in one of his attacks and found a severe case of frontal-ethmoidal involvement. Thoroughly clearing out the frontal-ethmoid region relieved his periodical attacks and his eye symptoms.

Case 3. Miss M., aged 18 years, was referred to me for her eyes. She gave the usual history of severe headaches. Has worn glasses for ten years and is practically blind in her left eye. Cannot read for any length of time without severe sick headache following. Has always been a poorly nourished child and parents despaired of raising her. Has always had stomach trouble and her mother states she does not eat enough to keep a flea alive.

Examination revealed her correction she was wearing all right. The fact that her headaches were constant, present in the morning and continued all day, made me look for muscle trouble, and I found all three pairs of muscles at fault. I then directed my attention to the sinuses and found by trans-illumination that the frontal region was dark. Pain on pressure over the inner orbital wall. Dizziness on suddenly arising. Nose showed marked obstruction, especially on the left side. X-ray plates showed both sinuses involved. Operation advised and accepted.

To date she has had only the left side cleaned out, but results are very gratifying. Headaches are much relieved, appetite marked and growing. She feels better than she ever has; for the past week has been attending the lecture course and looking at the bright lights without ill results, where before it would be followed by nauseating headaches next day. I intend to operate on the other side in the near future and believe she will entirely recover. Prisms in these cases are apparently not needed after operation.

Case 4. Mr. D. complained of poor vision in right eye, with severe frontal headaches. Condition of long standing and had been under the care of several men, but without results.

Examination revealed vision in right eye of about 20/50; fundus granular but no other change present. Nose revealed large polypoid mass in middle turbinate region. I removed the middle turbinate, curetted the ethmoid cells and enlarged the fronto-nasal opening, giving fine drainage. The pus fairly dropped out of the sinus and today, two months after operation, vision is practically normal, and he is in better health than for many years.

Septum. Miss S. was referred to me for headaches. I went through the usual examination of her eyes and found she needed a correction, which was supplied. At that time I made an examination

of her nose and found a badly deviated septum, which I said might also be a factor in causing her headaches. I advised her to wear her glasses, however, for some time and then if the headaches did not clear up we would direct our attention to the nose.

Later I did a submucous resection, with the result that the headaches disappeared, to remain away permanently.

Ethmoid. Mr. F., 21 years old, was referred by his family doctor for sore eye. Says he had had more or less trouble with eye for some time. Is a shirt ironer by trade and striped shirts would come up and apparently hit him in the face. He would get a sick headache after continued close work. Examination of the eye revealed nothing more than severe ciliary tenderness. No visible inflammatory reaction present. Not suspecting a sinus involvement I placed him on aspirin and atropin. I watched him for several days without improvement, when I began to look for other causes. Pressure over the ethmoid cells elicited considerable pain. Trans-illumination showed dark fronto-ethmoidal region and inspection of the nose inside revealed a poorly ventilated middle meatus. I advised immediate operation which was accepted and to my surprise on seeing him the next day the ciliary tenderness was almost gone and on the second day entirely gone, and he has had an uninterrupted recovery.

Case 2. Master H., aged 14 years, had a sore eye for several weeks before seeing me. Said he was struck in the eye on Decoration day with a small twig and since then eye has been sore. Considerable pain, red and sensitive to light.

Examination revealed marked infiltration of the cornea, ciliary tenderness and haziness of the fundus. My attention was drawn to his nose by his nasal twang and on examination found a badly deviated septum with very foul secretions around it. I directed my attention to the nose and appropriate treatment to the eye and the condition cleared up very rapidly. I advised straightening the septum, but to date his father has not consented to it.

Sphenoid Sinus. Miss H., aged 20 years, had been under the care of general practitioner for several weeks with a severe occipital headache, but without relief. Had been treated for stomach trouble. On examination I found the region of the middle turbinate very much congested and by the use of adrenalin was able to open up sufficiently to probe the sphenoid sinus. After opening up I used negative pressure, with the head well down, and succeeded in bringing out considerable secretion. She reported next day and said the headache had disappeared shortly after the treatment and had not returned. I gave her another treatment on the third day and she has remained free from headaches since, four weeks ago.

In conclusion I would say: Be on your guard for the cases of persistent stomach trouble, persistent

headache or eye conditions not relieved by local measures.

The sinuses are the cause of more trouble than is suspected and often the obscure case is given lasting relief by proper attention to them.

I have found in my cases that the apparently large muscle irregularities take care of themselves after the cause is removed and prisms are no longer required. Always bear in mind the close relation of the eyes to the nose and accessory sinuses.

THE INTERNATIONAL CONGRESS.

The Seventeenth International Congress of Medicine met in London the sixth to the twelfth of August.

The Congress was formally opened by H. R. H. Prince Arthur of Connaught at Albert Hall where every seat of that vast hall seating, some nine thousand, was taken.

Sir Thomas Barlow in his presidential address gave praise to the men of medicine who had been active at the last meeting of the Congress held in London, which occurred a generation before, in 1881.

The address in medicine was given by A. Chauffard, professor of Clinical Medicine in the University of Paris, on "Medical Prognosis: Its Methods, Its Evolution, Its Limitations."

The address in surgery on "Realignments in Greater Medicine," was delivered by Harvey Cushing, M. D., F. R. C. S., Eng., Professor of Surgery Harvard Medical University. He took up the defense of physiologic and pathologic experiments. He gave a lucid account of the several attacks of the anti-vivisectionists and in his own masterful style marshaled arguments to combat all their fallacies.

Space forbids anything but a brief sketch of the papers and discussions of the several sections. A paper on

DUODENAL AND PYLORIC ULCERS

was read by Professor C. A. Ewald (Berlin). He pronounced himself horrified by the statistics of British and American surgeons, who claimed to have proved that duodenal ulcer was a commoner, perhaps a far commoner complaint than ulcer of the stomach. Reference to the post-mortem room statistics afforded no support to such surgical statements; in his own clinique he had had and treated 532 cases of gastric ulcer and 82 of duodenal ulcer during the three years 1910-11-12, and he quoted continental (European) statistics to prove that as a matter of fact gastric ulcer was quite six times as common as ulcer of the duodenum. He felt himself bound to dissent very strongly from the dictum of Sir Berkeley Moynihan, who

said that a careful previous history was all that was needed to make the diagnosis of duodenal ulcer, and that it was not necessary to examine the patient before coming to a positive conclusion. Professor Ewald pointed out how cases of cholecystitis, appendicitis, tabes with gastric crises, or even severe neurasthenia, might find themselves exposed to operation for the cure of non-existent duodenal ulcers should such diagnostic criteria as Moynihan's be accepted as adequate. He himself laid particular stress on three or four points in diagnosing duodenal ulcer. 1. The long duration of the case, and the recurrence of pain two or more hours after food had been taken. 2. The presence of manifest or occult blood in the stools; repeated examinations might be called for before this blood could be demonstrated. 3. Hyperchlorhydria, which was almost constantly found, and might be seen even when the patient was fasting. 4. Skiagraphic examination of the stomach after a bismuth meal; the duodenum was then seen to fill up with unusual rapidity, the stomach was often not empty even after six hours, the gastric peristalsis was abnormally forcible, and the stomach itself was frequently displaced downwards and to the right.

Dr. Edward Archibald (Montreal) read a paper on
A NEW FACTOR IN THE CAUSATION OF PANCREATITIS

He drew attention to the fact that while it was certain that pancreatitis was sometimes due to blocking of the papilla of Vater by a calculus, in many cases of this disease no calculus was present. By means of a number of experiments he had proved that a sphincter exists in the papilla of Vater, that it was capable of withstanding great pressure, and that spasm of it might be produced reflexly by irritation from the stomach or duodenum. He further showed that this spasm could cause a fluid in the common bile-duct to pass into the ducts of the pancreas. Clinical evidence was also produced, and a number of slides helped to make the contentions of the author clear.

The chair was then taken by Sir A. Whitelegge, H. M. Chief medical inspector of factories.

Dr. A. J. Hall (Sheffield) read a paper on

DIACHYLON AS AN ABORTIFACIENT.

He desired to call the attention of the section to a practice which had been steadily growing and spreading in England—viz., the taking of diachylon for the purpose of procuring abortion. He outlined briefly the history of our knowledge of the effects of lead in poisonous doses upon the fetus, and referred to the original observations of Constantine Paul in 1860. The practice appeared to have begun in the Midlands about the "nineties," and the probable source of the knowledge was the prevalence of plumbism amongst industrial female workers in lead in that district. An inquiry made specially for the purpose of this paper showed that the practice had spread widely to the most distant parts of the country. No cases had occurred in Ireland. The greatest severity of the evil was during the final years of the last and the early years of this century, when trade depression was very severe. During the last few years the cases were

less numerous, even in the Midlands, but they still occurred in considerable numbers, and the fact that the practice had extended to many fresh centers of population made it probable that with a return of bad trade the practice would assume grave proportions again unless steps were taken to repress it. In no other countries, excepting a few cases in Germany, did this practice seem to have existed. It was largely adopted by women anxious not to increase the size of their families for economic reasons, and they were quite unaware of the terrible dangers to life and health involved. If diachylon were scheduled as a poison tomorrow, or its sale absolutely prohibited, it would be no loss to medicine, as it was therapeutically unnecessary, and there was no doubt the practice would be largely if not entirely stopped.

A discussion on

THE CORRELATION OF THE ORGANS OF INTERNAL SECRETION AND THEIR DISTURBANCES

was opened by Professor E. Gley (Paris), who gave a *résumé* of the various methods by which the existence of internal secretions could be ascertained and demonstrated, histological, physiologic and chemical. He pointed out that in spite of the vast amount of work on the subject which had been published in the last five-and-twenty years the quantity of our exact and certain knowledge was still disappointingly small. He pointed out that a fact of great importance is overlooked by too many of the experimenters who labor in this field of physiology. It is this: that one cannot take it as proved that the substance found in the extracts made from organs were actually present in those organs during life. These extracts were often highly toxic, he said; yet it must not be rashly assumed that the toxicity was due to specific substances secreted by the organ. The toxicity here might depend upon many conditions, and most of all upon the method by which the extract had been prepared.

Professor L. F. Barker (Baltimore) opened discussion on

THE DIFFERENTIATION OF THE DISEASES INCLUDED UNDER THE TITLE CHRONIC ARTHRITIS.

Professor Barker gave his hearers an exhaustive survey of the history of the nomenclature that had burdened and confused these chronic joint troubles. In the earliest days any acute disease of the joints was called arthritis, any chronic disease was called gout. G. D. Baillou about 300 years ago reversed this, describing chronic conditions as arthritis, and acute inflammation of the joints as rheumatism. Rheumatoid arthritis was a name invented in 1859 by Sir Alfred Garrod. The more recent classifications of joint troubles showed greater complexity; thus a few years ago Hoffa and Wollenberg divided all chronic joint affections into two main classes, the infectious cases and the non-infectious. Each of these classes was subdivided into five further divisions. Professor Barker noted with satisfaction that, nowadays at any rate, the term gouty was applied only to cases with a

definite disturbance of the protein metabolism. Rheumatism, on the other hand, could not be as closely defined; speaking as if he were unacquainted with the researches of Poynton and Paine, he went on to add that the microbe of rheumatic infection was unknown to us, unless it were a streptococcus very recently isolated by Rosenow. In conclusion, he distinguished five main types—(1) the gouty; (2) the nervous; (3) arthritis deformans; (4) chronic infective arthritis; and (5) primary progressive chronic arthritis apparently not due to any infecting agent. He dwelt on the fact that in proportion as our knowledge increased so were they able to transfer cases from group (5), with its unknown etiology, to group (4), in which the bacteria causing the arthritis were known. Complete knowledge, he believed, would some day enable them to empty group (5) into group (4) altogether; at present, however, this could not be done. It was a remarkable thing that cases falling into group (5) had been reported from all countries.

Professor Dr. F. Sauerbruch (Zürich) opened a discussion on

INTRATHORACIC SURGERY.

He said that much had been done in the past, and he gave a brief history of the surgery of the thorax, and then he considered the factors which had assisted the progress of this branch of surgery. One important aid to diagnosis had been provided by the discovery of the Roentgen rays, for by their assistance we had been enabled to obtain information impossible by any other means. The investigations of pneumo-thorax were of importance, for they led naturally to a study of the question of the differences of pressure within the lungs and outside. The investigation of the question of absorption from the pleural cavity had also been fruitful and good. He then proceeded to mention the various methods which had been adopted to maintain the difference of pressure between the air inside and outside the lungs when the thorax had been opened. He explained the mode of action both of the positive and the negative pressure methods, and he stated that a difference of from 7 to 10 millimeters of mercury was amply sufficient to enable respiration to continue. He referred also to the Auer-Meltzer method of tracheal insufflation, but he appeared a little doubtful as to its ultimate utility. The technique of opening the thorax was then briefly described, and he stated that it was unwise to employ drainage if it could be avoided, for it was far better to close the wound completely, drawing the ribs together between which the incision had been made. He expressed the opinion that an exploratory thoracotomy was a procedure of little danger. He then considered the operation of thoracotomy when performed for pneumothorax or for hemorrhage. He also referred to wounds of the heart and of the large vessels of the chest, and the surgery of the anterior mediastinum and of the esophagus, and lastly he spoke of the surgical treatment of tuberculosis of the lung and of bronchiectasis. He looked forward confidently to great advances in the surgery of the thorax in the next ten years.

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Editorials

ELECTIONS IN AMERICAN MEDICAL ASSOCIATION HELD ILLEGAL BY THE APPELLATE COURT.

In a recent decision of the Appellate Court of Illinois, in the case of the People, ex rel., G. Frank Lydston, appellant vs. John E. Wayman, state's attorney, appellee, the court reversed the decision of the Circuit Court. The following is an abstract of the opinion of the court delivered by Mr. Justice Fitch:

This is an appeal from a judgment dismissing a petition against the State's Attorney seeking to compel him, by mandamus, to sign a petition for leave to file an information in the nature of a *quo warranto*, alleging, in substance, that certain persons therein named were unlawfully elected and acting as trustees for the American Medical Association, an Illinois corporation not for profit. A general demurrer to the petition for mandamus was sustained by the Circuit Court, whereupon the relator elected to stand by his petition and appealed.

Three questions are raised in the brief of appellant's counsel, which may be stated as follows: (1) Do the facts stated in the petition show *prima facie*, such a case of usurpation of

office as entitles the relator to have that question determined upon information in the nature of a *quo warranto*? (2) Is an election of trustees of an Illinois corporation, not for profit, held outside of this State, voidable at the instance of non-participating and non-consenting members of such corporations? (3) Can the by-laws of such a corporation lawfully provide for the election of its trustees by delegates selected by "constituent assemblies" in this and other States, instead of an election by the members of the association in person or by proxy?

The petition presented to the State's Attorney for his signature recites that the American Medical Association is a corporation not for profit organized under the laws of Illinois in April, 1897; that its charter states that "the location is in the City of Chicago, County of Cook and State of Illinois"; that the object for which it is formed is to promote the science and art of medicine; that the management of the association shall be vested in a board of nine trustees, "who are to be elected as the by-laws direct," and that nine persons (naming them) shall be the trustees for the first year of the corporate existence. The petition then avers that said Association adopted a constitution and by-laws, a copy of which is attached to the petition.

The constitution provides that "the membership of this Association shall consist of such members of the Constituent Associations and of such medical officers of the Army, of the Navy and of the United States Public Health and Marine Hospital Service, as shall make application in accordance with the by-laws"; that all State and territorial medical associations which have, or may, become organized in accordance with the general plan of the organization of the American Medical Association, and which have declared, by resolution, "their allegiance" thereto, and "shall agree with other State and territorial Medical Associations to the formation and perpetuation of the House of Delegates of the American Medical Association," shall be recognized as constituent associations, on acceptance of their application for recognition by the House of Delegates; that the House of Delegates shall consist of delegates elected by the constituent associations and "shall represent the delegated powers of the members of the American Medical Association"; that said house of delegates shall elect

the general officers and trustees of the American Medical Association; that three trustees shall be elected annually to serve for three years; that an "annual session" of the association shall be held at a time and place to be fixed by the House of Delegates. The by-laws provide that any physician "reported as a member in good standing of a constituent association, by the Secretary of that Association, who shall make application and pay the annual assessment and to the subscription to the *Journal of the American Medical Association* for the current year, "shall be a member," which membership shall continue "so long as he is a member in good standing of the constituent association of the State in which he resides," and so long as he continues to pay the annual assessment and subscription to the journal. The by-laws also provide for the election by the constituent association of delegates to the House of Delegates, which meets annually on the day preceding the annual session of the American Medical Association at the same place as the annual session, and then and there elect the trustees and officers of the Association. The duties of the officers and trustees are also governed by the by-laws. The trustees "shall have charge of all properties and of the financial affairs of the Association," superintend the publication of the journal and proceedings of the Association, audit the accounts of the Treasurer and of the journal office and "have full control of all arrangements for the annual session."

The petition then avers that the Chicago Medical Society is a "constituent association" of the American Medical Association; that the relator is a licensed, practicing physician in Chicago and a member of the Chicago Medical Society; that he has complied with all the rules and regulations of the American Medical Association, has paid his dues regularly for more than ten years, and has been duly accepted and recognized as a member of said Association; that as such member, he has repeatedly demanded the right to vote for trustees thereof, but that the Association has refused to permit members to elect the trustees "except through and by virtue of delegates representing subordinate bodies"; that in 1908 the House of Delegates assembled in Chicago and elected three trustees, whose terms expired in 1911; that in June, 1909, the House of Delegates assembled at Atlantic City, N. J., and there elected three trus-

tees whose terms expired in 1912, and in June, 1910, at St. Louis, Mo., elected three trustees whose terms expired in June, 1913. The petition charges that the Association has no power, under its charter and the laws of Illinois, to hold an election for trustees outside of the State of Illinois, and no power to deprive its members of the right to vote for the trustees; that the election of said trustees was never ratified nor confirmed by the members of said Association either individually or collectively in the State of Illinois; that the "pretended election" of said trustees was without authority of law and null and void and that said trustees are now unlawfully holding themselves forth as trustees and unlawfully acting as such trustees without having been legally elected to such offices. The petition concludes with a prayer for leave to file an information in the nature of a *quo warranto* against said acting trustees. Attached to the petition is an affidavit by the relator as to the truth of the facts stated in the petition; when this petition and affidavit were presented to the State's Attorney for signature he declined to sign it. A similar application to the Attorney-General was likewise refused.

In view of these provisions of the statute the right and power of the trustees to delegate to the House of Delegates (who are not trustees) their statutory duty and authority to fix the place of the annual meetings of members and the right and power of the trustees to provide for the election of trustees by a vote of any part less than the whole number of members may be well doubted, but aside from such consideration, we think that the words "At such places as may be provided by the by-laws," must be construed to refer to places *within the State*. Section 30 of the Act clearly contemplates that every such corporation shall have a principal place of business in some County in this State and the language quoted from Section 32 was evidently intended to authorize the holding of elections for trustees either at that place or at any other place within the State as the by-laws should provide. Certainly it cannot be presumed merely from the use of the quoted words that the legislature intended to refer to places beyond the limits of its own jurisdiction where its laws could have no operative force and effect. In *Franco-Texan Land Company vs. Laigle supra*, "It is, to say the

least, doubtful whether or not a State could grant a corporation the right to change its residence to another sovereignty at its own will and there exist and perform its corporate functions. The rule of construction applicable to statutory provisions is "that every power that is not *clearly* granted is withheld and that any ambiguity in the terms of the grants must operate against the corporation." *American Trust Co. vs. M. & N. W. R. R. Co.* 157 Ill., 641-651. *Fritze vs. Equitable B. & L. Society* 186 Ill., 183-196. "Where the charter or law is silent as to the power sought to be exercised, it does not exist, and where a grant of corporate power is claimed by a corporation it must clearly appear and will not be inferred or presumed." *Knapp vs. Supreme Commandery, etc.* 118 S. W., 390-395. Here it does not clearly appear from the language used in Section 32 or elsewhere in the corporation act that corporations not for profit, are given the power claimed in this case to hold corporate meetings outside of the State of Illinois, nor does it clearly appear that the power is anywhere given to take from the members, by means of by-laws, the right to vote "in person or by proxy," for trustees, and vest that right in delegates selected by its constituent associations. We, therefore, must conclude that the powers claimed have never been granted to and are not possessed by the association in question.

In our opinion the Circuit Court erred in sustaining the demurrer to the petition for mandamus and its judgment will therefore be reversed and the cause remanded.

Reversed and remanded.

THE MODERN SURGEON AND HIS WORK.

When that illustrious pioneer of American surgery, Dr. Ephraim McDowell, performed in 1809 the first ovariectomy in the world's history, he invited to the banner of progressive medicine a future regiment of new specialists—the surgical gynecologist.

Since that day the general surgeon and his new team mate have been steadily progressing in knowledge and skill until now the crude instruments and methods of the great McDowell fail beside the blinding luster of our present-day institutions of research, diagnosis and treatment.

There never yet was born a great idea or thought that pushed boldly to the accomplishment

of good but that some less true and feebler mind would, for worldly gain, ape the conception.

Hippocrates with his superb mind started a sober, systematic study of disease that—with their cures later determined—carried happiness to unnumbered souls. The work of Hippocrates does not sleep in Hippocrates' grave. Ernest students since, in the short span of serious lives, have loaned to its impetus and sent it, with ever increasing worth, rolling on down the long path of the years.

In the outer eddies of this mighty current there have been launched a hundred "isms" and theories all in crafts too frail to long live in the irresistible flood of truth's light. Most conspicuous of these theories that at present live are osteopathy, christian science, chiropractic and mechano-therapy. The reasonable principles of these ideas were long since embraced in, and in fact were gleaned from, the teachings of modern medicine. These foolish "cure-alls" as separate sciences, are carried to limited and transient success in the outer waters of that great river of truth whose fount lies in the age of Hippocrates.

This incident of the weak and inefficient following and living off the efforts of the strong holds as true for the various sub-branches of medicine as for the great science itself.

We see in obstetrics many indifferent members who thrive in its practice simply because master obstetricians by unceasing effort keep their science well anchored in public respect.

This is true of the internist's work as well. Likewise of surgery. A surgeon, skilled and thoughtful, by careful diagnosis and careful surgery brings to many the happiness of health. The history of his deeds are told throughout the world and the paths of the unscrupulous dabblers in surgery are paved direct to a pot of gold. Our earnest plea is for conservative surgery. That is conservatism in the segregation of border line cases. We are convinced that the first flush of success which may mark the initial efforts of a young operator presages in many instances, ill for that young surgeon's community. We are sure there is not a week but that some patient with the illusive pains of unstable nervous organization does not leave our offices to put himself or herself under the knife of an operator who places the success of cure second to the success of dollars and a visionary fame. In this age of high ten-

sion living with its constant struggle for social, political and financial supremacy this consideration is one of more than passing interest.

Particularly does this apply to the gynecologist for the nervous organization of women is noticeably more sensitive and insecure than is that of men.

It is appalling to contemplate the vast army of women that yearly submit to operative procedures and later are found frequenting their physicians' offices with their original trouble aggravated. In the smaller towns and cities the publicity given these special operations on women is nothing less than amazing. We know for a fact that idle men of a village—the professional loafers and others—will often gather on street corners and discuss with startling accuracy the various details of operations that each passing woman has at sometime undergone. A fact that one observer cannot give will be quickly supplied by his neighbor. This condition of things is demoralizing. It should be discouraged—condemned. Those in each community best suited for this task are the physician. It is every doctor's duty to direct public thought from morbidity to channels of health. So thoroughly do we believe in the deleterious effect of these post-operative rehearsals that we often refuse point-blank to tell a patient anything at all about her operation. With our more intelligent clientele it is well to drop a word of warning that her affliction and its treatment is not a thing of *public* interest and must not outgrow the confines of her own and her physician's confidence.

The practitioner of medicine and surgery is under sacred obligation to his age and the generations to come. There is no other profession that has more to do with shaping the ultimate moral, mental and physical destinies of the race. It is our duty to save the neurotic, legitimate product of civilization, from herself and not add to our bank roll the illegitimate fee for an operation not indicated.

We must stand for the principles of the Hippocratic oath. We should be careful to treat justly the confidence of a patient who consults us. Likewise treat justly the endeavors of a physician who may have formerly attended this patient. So many times we have known of patients with slight cervical tears being hastened to the operating table and more frequently than not the physician

who attended this woman in her last confinement is severely ridiculed by the prospective operator. Anyone who has palpated the indefinite outline of a postpartum cervix knows how futile the attempt of immediate repair of slight cervical laceration is. Nature's own repair is in most cases quite marvelously complete. The average cervical tear is of little pathologic significance, its importance depending largely upon whether or not the woman is aware of its presence and further upon just how much she knows of it.

By regularly attending our county, state and national medical meetings we enlist ourselves in this endeavor to hold professional thought and progress in the proper paths of achievement.

THE SERIOUSNESS OF OPERATIONS ON THE CEREBELLUM

In the case of tumors, cysts and abscesses of the cerebellum, since, in most instances, except in the case of gummata which are rare, the growth of the neoplasm cannot be checked, surgical interference must generally be resorted to. But although surgical measures may have to be recommended in these cases, this by no manner of means should lead us to recommend immediate operation in all cases of cerebellar tumor so soon as the diagnosis is made. Individualization must be made here, as elsewhere in medicine and surgery.

In the case of tuberculoma there are several considerations which should caution us against immediate surgical intervention. In the first place, it is well known that in operations on tuberculous lesions, there is always a great risk of disseminating the infection. Secondly, these tuberculomas are very apt to be multiple. Thirdly, tuberculomas frequently cease growing and the symptoms gradually become ameliorated or cease entirely. When, however, as indeed too frequently happens, the condition rapidly progresses, operation is of course indicated.

Likewise, when gumma is diagnosed, operation should not be immediately performed. Vigorous anti-syphilitic treatment should be instituted—salvarsan or neo-salvarsan, mercury and iodides should be given a thorough trial.

With most cerebellar abscesses, operation is generally immediately indicated.

Gliomata always demand surgical intervention. Here recurrence is very apt to take place since

complete removal of the growth is not the rule.

With extracerebellar tumors and tumor of the lateral recess, although usually benign, there is great danger to life as a result of operation.

The best results are obtained with cysts, simple and benign, of the cerebellum.

In any case it must be remembered that it is not enough to know merely that the tumor is cerebellar, but all efforts should be exerted that an exact localization of the growth should be made before operative interference is decided upon in the way of exploration or otherwise. The reason for this is obvious: The cerebellum, more than any other part of the nervous system, is in most intimate relation with the most vital medullary centres. For this reason operations in this region are always attended with the greatest danger.

The statistics* of published cases of operation for cerebellar tumors, cysts and abscesses are not to be taken at their face value, inasmuch as cases in which operative interference proved unsuccessful are not as apt to be reported as are those with a favorable result. In spite of this the reports are by no means encouraging. For instance, in Holmes and Stewart's 11 cases of intracerebellar tumor, five died soon after operation, and three subsequent to the publication of their paper; while of their 10 cases of extracerebellar tumor, seven died immediately or shortly following operation, and one a few months subsequent with a new heterolateral tumor formation. In Oppenheim's 25 cases all died with the exception of six, of which three were only improved. Duret collected 31 cases in which death occurred immediately or a few days following surgical intervention, nine in which death occurred later, while eight improved and five recovered. Cushing, however, reports 35 operations with the following results: Thirteen successful tumor extirpations or cyst removals, 17 in which only decompression was done, two inoperable, and three deaths. When, on the other hand, we find that of 101 cases, collected by Pascalis, of extracerebellar or pontocerebellar tumors in which extirpation was attempted there were 72 deaths, while in 11 cases of attempted decompression, there were three deaths, with some improvement in

seven cases, the seriousness of operations on the cerebellum should be most forcibly impressed upon us.

It is appreciated that the prognosis in attempts at extirpation of the tumor is poor indeed. Decompression, however, preferably by Cushing's bilateral occipital decompression, may be resorted to with better chances for recovery from the operation and amelioration of symptoms and prolongation of life. This is important in view of the fact that most cerebellar tumors, if permitted to grow without interference, tend to steadily progress and result in death. As a consequence we find that much too frequently, unless operation is resorted to, a fatal issue is certain.

We may console ourselves with the anticipation that in the future better results may be expected. This will, of course, depend upon several factors, namely, greater accuracy in diagnosis, better selection of cases to be operated on, and an improved surgical technique.

In any case it should be apparent to all that none but an experienced surgeon, who is acquainted with the anatomy and physiology of the cerebellum and its related parts, and who is trained in the technique of surgery of the brain should attempt to perform operations of this nature. It seems to be no less than criminal for one inexperienced in the surgery of the brain to endeavor to remove a tumor in the region of the cerebellum. Even at the hands of the most experienced surgeons in this highly specialized field of surgery the results are so discouraging and the mortality so great that the greatest precautions should be observed in the selection of cases for operation and in the selection of the operator.

PROPOSED MEMBERSHIP REQUIREMENT

The following is Section 2, Article IV, of the proposed new constitution of the Pennsylvania State Medical Society, which will be taken up at the annual meeting in 1914:

Membership shall terminate automatically with each December, and the roll of members shall be made up new each year. The secretary of each component county society shall forward to the secretary of this society at the beginning of each calendar year the names of those who have paid their dues for the current year, together with the per capita assessment for such members. The books shall be kept open for three months and former members whose assessment is received by the secretary of this society on or before March

*The Interpretation and Treatment of Cerebellar Disorders, by Gordon Holmes, Vol. II, White and Jelliffe's Modern Treatment of Nervous and Mental Diseases.

31st, shall be entitled to all the privileges of the society except that he shall not be entitled to any benefit from the Medical Defense Fund from Jan. 1st, up to the date of the receipt by the secretary of this society of his name and assessment.

The adoption of an amendment to the present constitution of the Illinois State Medical Society of a similar character would go far toward unraveling the present tangled condition of our membership list. It is unjust to say the least, for a delinquent member to receive all the benefits of the state society for two or more years, and then refuse to pay back dues when his attention is called to his negligence.

There could never be any question as to the exact membership of the society and the dropping of a certain amount of dead wood could only react for the welfare of the whole.

MEDICAL ADVERTISING.

In trying to come to some conclusion concerning the character of medicinal products acceptable as advertising matter in the ILLINOIS MEDICAL JOURNAL, Dr. Whalen and Dr. Pence thought it wise to call a conference to consider the subject. To this conference were asked:

The Committee on Patent Nostrums of the Chicago Medical Society.

President of the Illinois State Medical Society.

President of the Chicago Medical Society.

An ex-President Chicago Medical Society.

Managing Editor of the ILLINOIS MEDICAL JOURNAL.

Chairman Council of the State Society.

After a free discussion of the principles that should guide the committee in the matter of advertisements for the ILLINOIS MEDICAL JOURNAL, the following resolution, submitted by Professor Walter S. Haines, was unanimously adopted, with the suggestion that it be submitted to the various County Societies for their approval or amendment:

Resolved, That medical products shall be acceptable for advertising matter only when their composition is stated and no exaggerated claims or misstatements are made in the literature;

Further, it was the judgment of the conference that the same rule should apply to those products which are to be used for external application as well as to those for internal medication;

Further, that such biological products as are produced under government license should be ac-

ceptable, unless exaggerated claims are made for them.

MEDICAL ORGANIZATION IN THE ANTIPODES.

The English National Insurance act of Mr. Lloyd George, which threatened to disrupt the British Medical association last winter, has cast its shadow over the profession of far away Australia, according to the address of Dr. Dight, whose plans for combating the danger are quoted from the *Australasian Medical Gazette* as follows:

ORGANIZATION OF THE PROFESSION.

W. B. DIGHT, M. B., CH. M.

Retiring President of the Northern District Medical Association, N. S. W.

We have a long business paper today, and our time is short, and I shall not weary you with a long address.

But there is a matter which has been ventilated in the correspondence columns of the *Gazette*, and which I consider is of the greatest importance; I refer to the means of keeping our Association, and our Branch, strong in its numbers of loyal members.

Our Branch and our Local Associations are strong, healthy bodies, and we must take steps to ensure that they remain so. To achieve this end, we must make sure that we gather into our ranks the graduates as they emerge from our medical schools. We should get into touch with our fourth and fifth year men; not by "dry-hash" lectures on medical ethics, and so on (our students have enough formal lectures to attend, and the spare time of a real "university man" is fully occupied by participation in sports and other branches of university life) we must, in some way, get the students to know men in actual practice, and so, perhaps, by a series of "smoke-and-yarn" meetings, point out to them the pitfalls that await the beginner in both private and lodge practice.

Let every recent graduate, and, indeed, also every new medico arriving in the State, be made an honorary member of the N. S. W. Branch of the B. M. A. for, say, a month immediately following his registration; let him be invited to the meetings, given the run of the library, and be brought into touch with the older members. By such means we could count on constantly increasing our strength and weakening the ranks of those we have to fight.

By "those we have to fight" I do not refer to lodges and such bodies; these need only be shown that we want to be treated reasonably in order to, in turn, enable us to treat them reasonably. Our real enemies are those medical men who, by accident or otherwise, will not or cannot join our B. M. A. ranks, and who pursue such cut-throat courses as render it hard or impossible to make or enforce our reasonable demands.

With (as it was expressed in a letter in the *Gazette*

recently) our medical schools turning out doctors "like a Chicago meat factory turns out sausages," or words to that effect, and considering the possibility of a number of doctors being practically forced out of Great Britain by the National Insurance scheme, emigrating to this part of the world, this matter of keeping up our numerical strength is of vital importance.

I am hopeful of very shortly seeing the whole medical profession throughout Australia so thoroughly organized that, should occasion arise, our profession may be able to present a solid "federal front," so to speak, and absolutely nip in the bud any national insurance or other scheme that may include unfair or iniquitous clauses, or anything that will tend to lower the standard of our professional work, or press hard on any of our individual members. To be able to do this, we must make our ranks strong and keep them strong.

Loyalty and enthusiasm in old members, and enthusiasm and loyalty in new members, are all that are required.

NEW HOSPITAL AND TRAINING SCHOOL AT FREEPORT.

Dr. J. H. Stealy has purchased the property of the National Sanitarium of Freeport, and is converting it into an up-to-date general hospital. The buildings, which are large and commodious, are being remodeled and refurnished; fitted with operating rooms, X-Ray rooms, sun parlors and other equipment found in any of the modern hospitals.

In connection with the hospital Dr. Stealy expects to institute a training school for nurses, which, like the hospital, will be up to date. The course will comprise a three-years' training, and will cover the ground required by the state boards. The hospitals will be open to the ethical members of the profession.

Correspondence

HAS THE AMERICAN MEDICAL ASSOCIATION A LEGAL EXISTENCE?

To the Editor: In another column is printed the text of the recent decision of the Illinois Court of Appeals in *re. Lydston vs. the American Association et al.* The association is an Illinois corporation and therefore amenable to the laws of Illinois. Regardless of the merits of the contention, it is evident that there is, at the very least, serious question as to the legality of all the official acts of the association for many years. Considering the importance of the A. M. A. to

organized medicine in this country, its business of nearly a million dollars annually, and the vastness of its material properties, every loyal member should be anxious to have all legal questions in relation to it cleared up as quickly as possible.

The Appellate Court in effect decides that the business meetings of the association held outside of the State of Illinois are illegal; that the present delegate system and the officers chosen under it for more than ten years are illegal; that the members of the so-called constituent societies who are not also legal members of the A. M. A. (but who outnumber the legal members) are not entitled to any voice in its concerns, and that every legal member of the association is entitled to an individual vote, in person or by proxy, for its trustees.

Provided that the Supreme Court sustains the Appellate Court, the association must either reorganize along the lines indicated or quit. The powers that be in the American Medical Association have hitherto refused the demands for reform made by many of its members. They have ignored the need for reform and have suppressed, as far as possible, all demands for reform. These reforms will now be forced by the strong arm of the law. It will be difficult for those responsible to explain why so strong a fight has been made for several years to prevent any legal decision upon a question as important to the association as its very legal right to do business. Why have not these gentlemen welcomed the first opportunity of settling such a question? Why have they fought so stubbornly and spent so much of the money of the association for several years past merely to prevent these matters from coming before a competent court? If Lydston has been wrong in his contentions about the legality of the proceedings, why have they not sought to prove him so? Why has there been every effort to delay, to quibble, to demur, to prevent a decision upon such vital issues? Was it sufficient answer to say that they had taken the precaution to consult competent legal talent, legal scholars "who knew more about the law than Lydston"? It is now no longer any question of legal opinions of paid attorneys. A high court has now decided that the lawyers were wrong in their opinions. Regardless of the final outcome in the Supreme Court, before which the matter at the

head of affairs in the A. M. A. will doubtless carry the case, the fact remains that a court decision of immense and far-reaching importance has now been rendered after most strenuous attempts on the part of our leaders to prevent even a consideration.

The proceedings against the A. M. A. doubtless will be a *cause célèbre*. The court's decision affects all corporations and is proving of great interest to the bench and bar. It will be especially interesting to the members of all organizations which suffer from ring rule.

It is interesting to note that the substance of five of the reform resolutions passed by the Chicago Medical Society several years ago, and by the Illinois State Medical Society at the meeting in Danville, has been sustained, either by tacit confession on the part of the officials of the association themselves, or now by a high court. The democratization of the American Medical Association seems to be at hand—forced, in spite of the most violent opposition of the coterie and in spite of the luke-warmness of the members of the association themselves, by the untiring efforts of one man.

HENRY F. LEWIS, M. D.

THE AMERICAN COLLEGE OF SURGEONS.

To the Editor: Here it is at last, a full-blown attempt by would-be conspicuous members of the home profession to engraft upon the democratic tree of free American medicine a royal sprout of would-be aristocracy from "Ol' Lon'on Town." They call it the American College of Surgeons. That sounds good, but who sired the thing, and whither goes it?

A glance at the roster of charter members is easy. Suffice it to say now that the names of many reputable men are there, names no better or worse, however, than some thousands more who are not. Yet these few have formed a so-called college or association of men whose chief function shall be to pose as self-appointed critics and classifiers of their fellows and reap what benefits are hoped for by virtue of this "eminence."

And behold, by the word of these wise ones, all surgeons straightway fall into two groups: (1) Those who pay \$25.00 and join, if they can, this A. C. S., and (2) all others, non-members, who refused to be branded by these irresponsible

branders. The A. C. S. group is arbitrarily subdivided by the organizers into Class A, to which only belong the organizers elected by themselves (can you beat it?). This Class A is already a closed group, we are informed.

Look you, oh, doctor, there are, therefore, no other A-1, first-class surgeons in the country outside this little group. But "it is to laugh," as we view its names, and then read the long living roll of American surgical honor. For all these illustrious ones who join now (if they are foolish enough), must be content with a brand of B, C, or D. Imagine what a figure you will cut, oh, fellow of the A. C. S., who have been or shall be caught in this snare of alphabetic eminence, as second, third or fourth rate surgeons, B, C, or D? Your judgment, your devotion, your skill, your experience and your training have all been appraised for \$25.00, by whom? The government or other impartial tribunal of authority or learning? Not at all. But by an autogenous, and self-perpetuating body of individuals who arrogate to themselves the special wisdom, virtue and right to place a halo upon their brows, and then, reaching down from their heights, brand their fellows as they pass with the iron, heated hot. How many of our surgeons with self-respect will stand for this?

We can see you in court some day, oh, fellow, as witness under the grilling tongue of opposing counsel. "Doctor, you are entitled to write several letters after your name, are you not?" "Yes." "You are a fellow, are you not, of the Royal Bunk Purveyors (We Are Its.)?" "Yes." "To what class of surgeons do you belong, doctor, in the so-called college?" "Class C." "Oh, Class C. Then you are by common consent listed as a third-rater. Doctor, do your patients (what few you can get to operate upon), know that you are only a third-class surgeon? That will do, doctor. You are excused."

And they do say that after you have obtained your brand of B, C, or D, by grace of the inner circle, A, that by paying an added \$30, more or less, you can purchase a long blue cloak (perhaps a prophetic color) with a scarlet border. With this to cover your surgical sins and a mortar-board, also a part of the regalia, capping your bald spot, how glorious it will be to meet, once a year, at least, with other second, third and fourth rate surgeons to glorify Class A?

But the great American profession has a temper all its own, founded upon self-respect, and a democratic love of fairness, and a dislike for all counterfeits. How well this latest attempt to build up an oriental obligarchy for the purpose of controlling honors, titles, offices and, incidentally, business, is to be received by this progressive profession of the West remains to be seen. There is more than an intimation in the air that many a man with the label of F. A. C. S. on him will be ready eventually to sell it very cheap.

(Signed) WM. L. NOBLE.

APPRECIATES POETRY

Savanna, Ill., Oct. 11, 1913.

Arthur M. Corwin, A. M., M. D.,
Chicago, Ill.

Dear Doctor: Please accept this, my token of admiration of your truly beautiful poem of tribute to Dr. Cotton, as found in the October JOURNAL.

Surely "the hoary head is a crown of glory" on our mutual friend, whose association with his professional brethren could prompt the utterances quoted, of which yours bears off the palm.

Yours truly,
G. W. JOHNSON.

RED CROSS MISUSED.

Office of the President-elect,
Athens, Ill., Oct. 11, 1913.

Clyde D. Pence, M. D.,
Chicago, Ill.

My Dear Doctor Pence: Replying to your communication of October 7 referring to something from me for the editorial department of the ILLINOIS MEDICAL JOURNAL, will say that it seems to me that the attention of the profession should be called to the apparent inconsistency of the use of the Red Cross symbol by the profession. This is as you know the insignia of the Red Cross Association and their rights are protected by Federal law.

At the Atlantic City meeting of the A. M. A., 1912, the Red Cross Association called attention of the house of delegates to this matter and asked that their rights in the matter be not infringed on.

It would seem that our profession should act in the near future in the matter of the adoption of

some distinguishing symbol, simple, easily understood and recognized, and no longer use the symbol of a body entirely distinct from our own.

The columns of THE JOURNAL should be open to discussion of this matter to the end that some action could be taken by the house of delegates at a meeting in the near future. This change is coming and why should Illinois not be the state to assume the initiative?

Should you deem this communication of any value to the readers of THE JOURNAL you are at liberty to publish it.

Sincerely,
A. L. BRITTIN.

The Clinical Congress of Surgeons of North America.

Fourth Annual Session, Chicago, Nov. 10-15, 1913.

PROGRAM OF EVENING SESSIONS

GENERAL SURGICAL DIVISION

Presidential Meeting, Monday, November 10, in Orchestra Hall

Edward Martin, Philadelphia. Address of retiring President.

Inauguration of President Brewer.

Brief addresses by Presidents of the National Medical Societies.

George Emerson Brewer, New York City: "A New Method of Pyloric Closure in Gastro-Enterostomy."

Harvey Cushing, Boston: "A Report of a Series of 150 Gasserian Ganglion Operations."

Discussion by John B. Murphy, Chicago.

Tuesday, November 11, in Orchestra Hall.

Sir W. Arbuthnot Lane, London: Title of paper to be announced.

Herbert J. Paterson, F. R. C. S., London: "The Operation of Gastro-Jejunostomy and the Principles Which Should Determine Its Use."

Discussion by Carl Beck, Chicago.

John B. Deaver, Philadelphia: "Gastric Hæmorrhage."

Discussion by A. J. Ochsner, Chicago.

Wednesday, November 12, in the Gold Room, Congress Hotel.

Professor Doctor Kronig, Freiburg, Germany: "The Radio-Therapeutic Treatment of Benign and Malignant Tumors."

Discussion by Howard Kelly, Baltimore, and C. J. Gauss, Freiburg, Germany.

Roswell Park, Buffalo: "On the Relation of the Ductless Glands to the Work of the Surgeon."

Discussion by Dean D. Lewis, Chicago.

John F. Binnie, Kansas City: "Some Uses of Fat in Surgery."

Discussion by Jasper Halfpenny, Winnipeg, Manitoba.

Cancer Meeting, Thursday, November 13, in Orchestra Hall.

Thomas S. Cullen, Baltimore: (a) Report of the Cancer Campaign Committee of the Clinical Congress of Surgeons of North America. (b) "The Diagnosis of Cancer of the Uterus."

Mr. Samuel Hopkins Adams, New York City: "Publicity Through the Lay Press."

Edward Reynolds, Boston: "Publicity and Education Through the American Society for the Control of Cancer."

Frederick R. Green, Chicago: "Publicity and Education Through the Council on Health and Public Instruction of the American Medical Association."

Mr. Frederick L. Hoffman, Newark: "The Educational Value of Cancer Statistics to Insurance Companies, the Public, and the Medical Profession."

James Ewing, New York City: "The Relation of the Pathological to the Surgical Diagnosis in Cases of Cancer."

William J. Mayo, Rochester, Minnesota: "Cancer of the Stomach and Colon."

C. J. Gauss, Freiburg, Germany: "The Radio-Therapeutic Treatment of Carcinoma."

Joseph C. Bloodgood, Baltimore: "A Very Recent Investigation of the Outcome of the Cases of Cancer Recorded in the Johns Hopkins Hospital and the Surgical Pathological Laboratory. (Lantern Demonstration.)"

Friday, November 14, in the Gold Room, Congress Hotel

Hugh Cabot, Boston: "The Diagnosis of Lesions of the Upper Urinary Tract."

Discussion by Arthur Dean Bevan, Chicago.

J. M. T. Finney, Baltimore: "Fourteen Years' Experience with the Operation of Pyloroplasty."

Discussion by E. Wyllys Andrews, Chicago.

Charles H. Mayo, Rochester, Minnesota: "A Summing Up of the Goitre Question."

Discussion by George W. Crile, Cleveland.

DIVISION OF SURGICAL SPECIALTIES.

Tuesday, November 11, in the Louis XVI Room, Hotel Sherman.

Edward Jackson, Denver: "Operations on the Extraocular Muscles."

Discussion by C. H. Beard and George F. Fiske.

Harold Gifford, Omaha: "Sympathetic Ophthalmia."

Discussion by E. V. L. Brown and J. B. Loring.

Robert H. Elliott, M. D., F. R. C. S., Lt.-Col. I. M. S., Superintendent Government Ophthalmic Hospital, Madras, India, will also address the meeting.

Wednesday, November 12, in the Louis XVI Room, Hotel Sherman.

G. Hudson-Makuen, Philadelphia: "Surgery of the Faucial Tonsil as It Relates to the Functions of the Tongue and Soft Palate in the Production of the Voice"

Discussion by W. E. Casselberry and Elmer Kenyon.

V. P. Blair, St. Louis: "Peridental Infections; Their Relation to Neighboring Organs."

Discussion by Arthur D. Black and Herbert A. Potts.
Friday, November 14, in the Louis XVI Room, Hotel Sherman.

Fred Whiting, New York City: "The Indications for the Radical Mastoid Operation with the Steps Essential to Successful Healing."

Discussion by Frank Allport and Joseph Beck.

Philip D. Kerrison, New York City: "The Surgical Treatment of Suppurative Labyrinthitis."

Discussion by George E. Shambaugh and J. Gordon Wilson.

SURGICAL CLINICS.

Programs of the surgical clinics can be secured upon registration.

Headquarters will open at both the Hotel La Salle and the Hotel Sherman, November 8. A fee of \$5 will be required from each surgeon upon registration, and a membership card only will secure admission to the session and clinics.

Notice

The Chicago Gynecological Society will hold a special meeting during the week of Congress of Surgeons (Nov. 10).

Professor Doctor Kronig and Professor Doctor Gauss will be the guests of the society on Saturday evening, Nov. 15, 1913, at 8:15, in the Florentine room of the Congress Hotel.

Dr. Robert L. Dickenson of Brooklyn, N. Y., will read a paper on "One-Stitch Perineorrhaphy and Two-Stitch Hysterectomy as Examples of Efficiency Methods."

Dr. Thomas S. Cullen, Baltimore, will read (by invitation) a paper on "The Umbilicus and Its Diseases."

Dr. Lewis S. McMurtry, Louisville, Ky., will read (by invitation) a paper on "The Foundation of Modern Gynecology and Abdominal Surgery."

The society will be glad to welcome members of the profession both from the city and abroad.

Dr. Schenck of Vienna, who is said to have staked his reputation on his advice in the matter of diet procuring a son for the Duchess of Roxburghe, is now accused by a London wag of faking his prescription from Mother Goose:

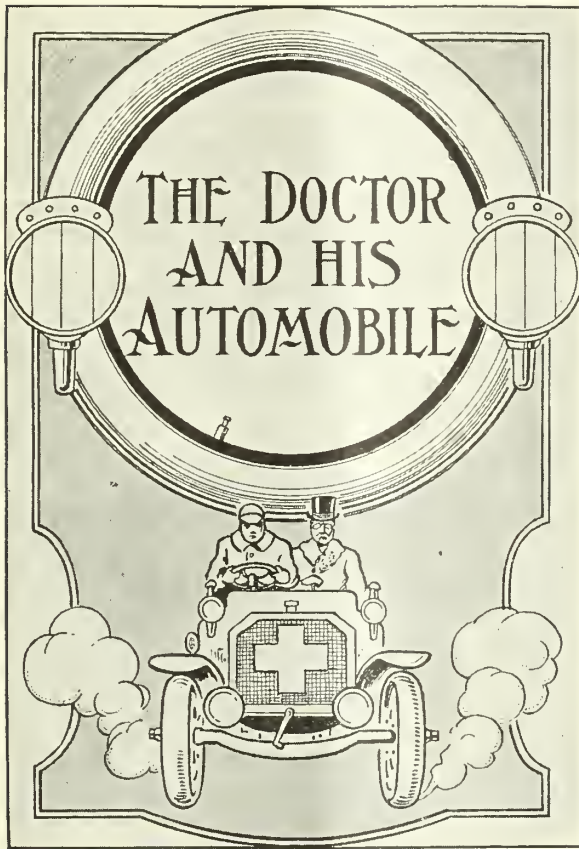
"What are little boys made of?

Rats and snails and puppy dogs' tails!

What are little girls made of?

Sugar and spice and all that's nice!"

Auto Sparks and Kicks



—Courtesy of American Medicine.

PRESCRIPTION FOR A BLOWOUT

Recently while making a short country drive with no extra casing, a blowout left one tire wearing a two-inch hole. Repair was made by folding a chamois polishing cloth to four thicknesses and laying it loose in casing. Upon return it was not convenient to renew tire immediately and the improvised patch stood two hundred miles of town and country driving before tire was intentionally deflated and replaced. The soft chamois forced into the hole sufficiently to prevent slipping and would apparently have worn indefinitely. I believe the same result could be had in emergency need by the use of a package of gauze or a roll of cotton. So far as I know the chamois treatment is original, although others may have had the same expedient forced upon them.

W. D. Chapman, M. D., Silvis.

RED CROSS SYMBOL

Physicians who use the symbol of the Red Cross on their automobiles, and makers of medicines who use this symbol have been informed by the head of the Red Cross Society in Cincinnati that by the use of the symbol they are violating a federal law, and are thereby subject to a fine of not less than \$1 nor more than \$500, or a term of imprisonment not to exceed one year, or both. —*From The Military Surgeon in McLean County Bulletin.*

WATER AS A CARBON REMOVER.

It has been found that if water is introduced into the cylinders of a motor while the motor is hot and operating at moderately high speeds, the caky carbon deposit is broken up and in a number of tests performed on various makes of cars the cylinders cleaned entirely of carbon. One-half teacupful of water is permitted to be sucked through the air valve while the motor is hot and operating fast. This operation should be followed immediately by an application of kerosene, either through the primer or through the air intake of the carbureter. This process should be necessary about every 1,000 miles. If the water is used when the motor is not sufficiently hot, it would do no good, as it seems to be the sudden flashing of drops of water into steam that causes the action.—*Motor Age.*

LAUGH ON DOCTOR.

A Chicago physician recently motored to Columbus, where he spent several days with friends on the East Side. While downtown one day, he left his touring car standing in front of the Chittenden Hotel, and when he came out he saw the negro doorman standing back of the machine laughing.

"What's the giggle?" queried the doctor.

"Nothing, boss," answered the genial doorman. "But you're a doctor, aren't you?"

"Yes."

"I thought so when I saw the red cross on the front of your machine, but if I owned that car I'd take that sign off the back."

The doctor went around to the rear and looked at the license tag. It read, "35,000 Ill."—*Columbus, O., Dispatch.*

Society Proceedings

ENGLEWOOD BRANCH, CHICAGO MEDICAL SOCIETY.

Regular Meeting, Oct. 7, 1913.

The opening meeting of the year 1913-1914 was held on the evening of October 7, 1913, at the Englewood Hospital.

The meeting was called to order promptly at nine o'clock by the President, Dr. Julius H. Hess, who in a few well-chosen words welcomed the members and visitors, briefly referred to the excellent program for the year, and invited the members to attend the next Council meeting, Wednesday, October 15, at 9 p. m., at the Stock Yard Inn, when matters pertaining to the good of the society, also arrangements for the next annual banquet, would be discussed.

Dr. C. Hubart Lovewell, the retiring President, was presented with a leather bound copy of *The News Letter* for the year of his office. As usual, he responded very gracefully.

The following scientific program was then enjoyed by the largest body of attentive and interested doctors that has ever turned out to an Englewood Branch meeting:

Newer Teachings on Etiology, Diagnosis and Treatment of Contagious Diseases.

1. Measles.....Josiah C. Violet
2. Scarlet Fever.....Edward K. Armstrong
3. Whooping Cough.....Jesse R. Gerstley
4. DiphtheriaArthur C. Kleutgen
5. Meningitis.....John W. McGuire
6. PoliomyelitisJohn G. Campbell
7. Quarantine and Disinfection.....

.....Wm. J. M. Cunningham

The program committee may justly feel proud of their judgment in and good work in selecting such live subjects and assigning them to most capable men.

In view of the fact that we expect to have these most valuable papers published in the ILLINOIS MEDICAL JOURNAL, it is unnecessary for me to even attempt to report them in their most important points. Suffice it to say that from the opening of Dr. Violet's paper on "Measles" to the closing of Dr. Cunningham's on "Disinfection" there was not one dull moment. The very latest research and experimental work on these diseases as to etiology, diagnosis and treatment was most ably presented. The papers, one and all, were up to the minute and were enjoyed by an appreciative audience.

The discussion was opened by Dr. Gottfried Koehler, Assistant Commissioner of Health of the City of Chicago, who took up the subject as viewed by the health officer. He stated that progress along the lines of prevention had been slow and was not yielding the results so earnestly hoped for and desired by all concerned. The death rate from scarlet fever and diphtheria is on the increase. For the first nine months of 1912 there were 417 deaths from scarlet fever in the city of Chicago, as compared to 323 for the same

period of 1913, an increase of 411 deaths. For diphtheria during the same periods there were 590 in 1912 and 741 in 1913, an increase of 151. The official record for 1912 gives Chicago a scarlet fever death rate of 27 per 100,000; diphtheria, 41 per 100,000. This rate is surpassed by only a few large cities, principally Russian, of which St. Petersburg is one. London shows the lowest rate—scarlet fever, 4, and diphtheria, 10, per 100,000. The death rate for decades (1891-1900 and 1901-1910) was given. This showed a marked decrease for the city of London.

London's diphtheria rate for the decade 1901-1910 was 18 per 100,000 of population; Chicago's was 29, a decrease of 35 per 100,000 for the former and of 58 for Chicago. The diphtheria rate for Chicago for the last three years has been higher than the last decennial average, near epidemic conditions prevailing. In London the rates have continued to decline in the last three years.

London reduced its scarlet fever rate 8 points in the last decade (1901-1910) from the average of the preceding decade, from 19 to 11 per 100,000 of population. The Chicago rate remained the same as in the preceding decade, 18. The London rate fell to 4 in 1911 and 1912; Chicago's increased to 21 in 1911 and 27 in 1912.

Thus we see that Chicago's diphtheria and scarlet fever death rates have been much higher than the rates of London, and in the last three years show rather marked increases over the decennial average.

Dr. Koehler asks, Why? He answers it in one word—*Hospitalization*. London, he states, has supplied itself well with hospitals and has cut down its contagious death rate most remarkably. Chicago is poorly supplied with hospitals, and its death rate is going up. If Chicago were supplied on the same basis as is London we would have hospital room for over 4,000 contagious cases. As it is, Chicago's hospital supply is practically nil.

Continuing, Dr. Koehler said that isolation was most important and lamented the sad fact that all cases are not reported. He believes that one strong reason why more cases are not reported has been the rigid rules of quarantine. He spoke of the radical changes in the New York Health Department regulations, the abandonment of terminal disinfection, etc., but made it clear that Chicago did not contemplate following in the same lines as New York. Changes, he said, must come carefully and slowly, and with this in mind the Chicago Health Department is forming new rules and regulations. In general, these rules will be: To avoid placing undue hardship upon a family having a contagious disease, the prime object being to quarantine the public *out* and the patient *in*, giving the other members of the family the greatest freedom consistent with the case and the circumstances at hand. In cases of scarlet fever, diphtheria, etc., the patient to be quarantined in the room and the room carded. In cases of whooping cough, to card the patient, and then allowing him his liberty thus carded.

In brief, the new regulations shall have for their object the amelioration of strict and unnecessary quarantine hardship and thereby encouraging the reporting of cases; everything to be done along the lines of latest and definite scientific findings, continued education of the public and ever striving to secure for the city of Chicago adequate hospital facilities.

Dr. Isaac A. Abt then discussed the subject, viewing it from the standpoint of the specialist as well as the general practitioner. His talk abounded in careful judgment and good, sound sense. In measles, he called attention to the severe laryngeal croup sometimes seen and which is most often believed to be diphtheretic. In many of these cases he stated diphtheria is not present, the condition being due to ulceration and edema of the parts. Milne's treatment by the use of oil of eucalyptus, he said, had not only nothing in its favor, but that its extensive use might be followed by serious kidney irritation. In scarlet fever, he called attention to the return cases—those returning home from the hospital and then supposedly (?) infecting others. He believes that often the blame should be placed elsewhere, that the scarlet fever carriers—the so-called immunes—who have a slight sore throat, but nevertheless carry the infection and thus infect those susceptible. He spoke of the various serums, but could not say much in their favor up to the present and hoped the future would bring forth the ideal treatment. Some of the severe cases of last winter did fairly well on the antistreptococcus serum, inasmuch as it seemed to tide them over. He issued a warning in the indiscriminate use of diphtheria antitoxine in cases of scarlet fever, fearing that it might reduce the normal resistance of the individual. In whooping cough, practically every drug had been used and none were of much value. That with the discovery of the probable germ, he hoped for a curative serum or vaccine. In diphtheria, he strongly advocated a good dose of antitoxine and that it be given early, that later the toxine combines with the tissue cells, and antitoxine is no good, the point being to get the toxine first. As to health department changes, he cautioned against being too radical, that something should be done in the way of terminal disinfection.

Dr. Duncan B. McEachern spoke very entertainingly on some recent experiments he had witnessed in Buffalo, tending to show a close relationship between the disease of limber-neck in chickens to poliomyelitis.

In closing, Dr. Armstrong advocated convalescent hospitals and stamped salvarsan as no good in scarlet fever.

Dr. Kleutgen believed that the high diphtheria death rate was in part due to the delay in obtaining free antitoxine. Physicians should be able to get it without any trouble or delay.

The program proved a great drawing card; the room was filled to overflowing. The attendance was over 100.

ARTHUR G. BOSLER, Secretary.

MORGAN COUNTY.

The society met September 11. In the morning a clinical walk was given by Dr. Black at Passavant Hospital. Some of the more interesting cases shown were: Sarcoma of the hip and pelvic canal complicating an eight months' pregnancy; hysterectomy for large single fibroid with coexisting two months' pregnancy; post hysterectomy for fibroids; hemoglobin at entrance to hospital, 23 per cent on account of anemia from hemorrhage; operation made with hemoglobin at 27 per cent, patient now convalescing, hemoglobin 50 per cent; second fracture in a femur recently following a first, with non-union of second, an operation being necessary; a breast cancer with marked retraction of the nipple; operated on. The patient came in immediately following Dr. F. J. Lutz's cancer lecture at the local Chautauqua in August.

Luncheon was had at Peacock Inn by a number of the members, after which the regular program occurred at the Medical Library.

Dr. J. W. Hairgrove presented in an informal way some points in surgical diagnosis which will appear subsequently as a paper. Dr. Hairgrove's remarks were discussed by Drs. Black, Reid, Ogram, Adams, Stacy and Norris.

The cards carrying the data from the Baby Show conducted at the Chautauqua were formally turned over to the custody of the society by Dr. Black. Members of the society volunteered to act as examiners and, aided by trained nurses, examined 56 babies. The data on each card was as follows: No.; age; weight at birth; sleep; height; weight; circumference of chest, abdomen and head; symmetry; quality of skin and fat, and muscles; hand grasp; poise; bones of skull, spine, etc.; pupillary distance and shape of eyes; shape, size and position of ears; shape and size of lips; shape and size of forehead; shape and patency of nose; shape and conditions of jaws, tonsils, etc.; number, shape, size, condition of teeth; disposition; energy; facial and ocular expression; attention. Each factor was marked on a scale of normals, figured from standard works on pediatrics.

Dr. Ralph R. Jones of Woodson will present the subject of "Pernicious Anemia" at the October meeting. Those present were: Drs. Adams, Black, Crouch, Duncan, Hairgrove, Haskell of Lynville, Norris, Ogram, Pitner, Reid, Stacy, Jacksonville; Canatsey of Bluffs and Harvey of Griggsville.

GEORGE STACY, Secretary.

RANDOLPH COUNTY.

The society met at the Warden House of the Southern Illinois Penitentiary, Menard, October 14, 1913. The following members were present: James, MacKenzie, Fritze, LeSaulnier, Gault, Church, Hill, J. W. Robertson, Yandall J. W. Smith and L. J. Smith. The following visiting physicians were present: Bollinger, Steelville, Like of Chester State Hospital, McAmis and Layton of St. Louis.

After an excellent four course dinner in the War-

den House all repaired to the prison hospital operating room, where an excellent surgical clinic was held by Dr. McAmis, assisted by Drs. Layton, Hill and Fritze. The radical operation for inguinal hernia was skillfully and speedily performed. We hope to report the outcome of case at our next meeting. After the clinic a business meeting was held; minutes of last meeting read and approved. Because of lack of time and of knowledge of members regarding the Fee-Bill, to have been reported by committee on same, a motion was made, seconded and carried, that the committee be continued and as soon as possible mail to each member in the county a copy of the Fee Bill prepared by them, that members may give it thought before next meeting in January. An application for membership from A. B. Beattie of Red Bud was received. He was favorably reported by membership committee and by unanimous vote made a member of society. Because of lack of time only one paper was read and discussed. It was "Etiology and Diagnosis of Appendicitis," by Dr. Church. It was discussed by Drs. Gault, LeSaulnier, MacKenzie and Church. A vote of thanks was given Warden Choiser for the delightful entertainment of members and also to Drs. McAmis and assistants for their surgical clinic. Red Bud was chosen for place of next meeting, the second Thursday in January, 1914. Adjourned.

LOUIS J. SMITH, Sec'y.

WINNEBAGO COUNTY.

The Winnebago County Medical Society met in Memorial Hall, Rockford, October 14, 1913, with Dr. Emil Lofgren, president, in the chair. Members present, 24; visitors, 2. Minutes of previous meeting were read and approved. Applications for membership were received from Drs. O'Donnell and Gerald Allaben of Rockford.

Dr. Nelson Percy, of Augustana and St. Mary's Hospitals, Chicago, was introduced by the president and delivered a very interesting and practical talk on the "Use of the Lane Plate in Bone Surgery." The doctor based his talk on his personal results in 106 cases and laid strong emphasis on absolute cleanliness in operating. The talk was illustrated by lantern slides.

The society thanked Dr. Percy very heartily for his kindness in coming to Rockford and for his very able address. General discussion followed. Adjourned.

C. M. RANSEN, Secretary.

Personals

Dr. C. Volini has been appointed by Governor Dunne a member of the West Park Commission.

Dr. C. A. Wilcox, Amboy, is recovering from his recent operation in the Dixon Hospital.

Dr. B. M. Linnell fractured his arm while cranking his automobile, October 6.

Dr. C. St. Clair Drake has been elected president of the Town and Country Club.

Dr. E. P. Hatheway, Ottawa, is ill in the hospital with an infected wound of the arm.

Dr. Ludwig Simon sailed from San Francisco, October 7, on a six months' trip around the world.

Dr. B. Barker Beeson, Chicago, has returned from a course of study in Hospital St. Louis, Paris.

Hastings H. Hart has resigned as state superintendent of the Illinois Children's Home and Aid Society.

Dr. J. A. Campbell, recently appointed superintendent of the Watertown Hospital, took charge September 14.

Dr. Benjamin A. Arnold, Freeport, was acquitted in the Federal Court of sending obscene letters by mail.

Dr. J. Mather Preiffenberger, Alton, and Dr. and Mrs. T. W. Curry, Streator, have returned from Europe.

Dr. H. G. Hardt, formerly superintendent of Lincoln State Home and colony, has opened an office at 6860 South Halsted street, Chicago.

Dr. H. N. Bascom, Peoria, chief surgeon of the McKinley system, entertained the surgeons of the McKinley system at dinner at the Creve Coeur Club, October 15.

Dr. and Mrs. E. Fletcher Ingals and daughter, Dr. and Mrs. G. E. Fosberg, Dr. Eugene S. Talbot and daughter, Dr. and Mrs. Herman L. Kretschmer, all of Chicago, have returned from abroad.

News Notes

—Peoria has passed an ordinance for the expenditure of \$20,000 for a municipal tuberculosis hospital.

—The La Salle County supervisors have appropriated \$3,200 for a county sanatorium for tuberculosis patients.

—The Lake County supervisors are expected to select a 10-acre tract of land near Waukegan for a tuberculosis colony.

—The Medical Women's Club held its first meeting and dinner of the year at the Chicago College Club, October 8.

—An out-door school for children affected with tuberculosis is to be erected on the roof of the Parish House of Grace Episcopal Church.

—Work has been commenced on a new solarium for Dr. P. E. N. Greeley, Waterman. The solarium will have twelve sun or outdoor sleeping rooms.

—Peoria had a child welfare exhibition in its coliseum from October 27 to November 4. Dr. Clifford U. Collins was chairman of the executive committee.

—The Chicago Medical Woman's Club gave its annual dinner to the women interns in Chicago hospitals, October 18. Dr. Frank Billings was the guest of honor.

—The ten-day campaign in Aurora, to raise \$100,000 for St. Joseph's Sanatorium, was successful and work on the new buildings will be started in the early spring.

—The City of Chicago has acquired a tract of 38 acres of land south of the bridewell, which may be used for an isolation hospital for which funds were voted last year.

—Dr. Elbert W. Oliver, Peoria, has acquired 120 acres on the Tazewell County side of the Illinois river, and announces that he will build a sanatorium next spring, to cost \$100,000.

—The new West Side Hospital building at Lincoln and Harrison streets was formally opened October 17. The building has cost \$200,000, and has accommodation for 170 patients.

—Dr. E. H. Ochsner has been appointed a member of the state charities committee, succeeding Dr. Frank Billings. Dr. Anna Dwyer has also been appointed a member of the committee.

—A five-story building, to cost about \$100,000, is being erected at Washington boulevard and North Campbell avenue by the Washington Boulevard Hospital Association, which at present maintains the Monroe Street Hospital.

—Trustees of the Municipal Tuberculosis Sanatorium have arranged to assist the Elizabeth McCormick Memorial fund with \$7,000 for this season's work in open-air schools and other relief work for children affected with tuberculosis.

—Silver Cross Hospital, Joliet, has become too small for the needs of the city and an addition is proposed to cost \$55,000. To accomplish this a tag day was held in Joliet, October 11. The addition to the hospital will double its capacity.

—The JOURNAL desires to publish as much news relating to physicians in Illinois as our space permits. To this end items of interest are solicited from members of the society and espe-

cially from the secretaries of the county societies.

—Dr. John G. Message and Dr. George T. Leedle, both of 18 South State street, pleaded guilty to violations of the postal laws by sending prohibited medical information through the mails. They were fined \$150 each by Federal Judge Carpenter.

—The Cook County Detention Hospital has been dismantled to make room for a new psychopathic hospital with accommodation for more than two hundred patients. For the present, patients are being cared for in a building across the street from the old detention hospital.

—"Dr." Orlando E. Miller, who will be remembered as a consumption-rupture-drink-dyspepsia-cure fakir who flourished here a few years ago, is said to be the leading spirit in a London "Abode of Love," which is the subject of legal action involving the Duke of Manchester.

—Several prominent Chicago women have received blackmailing letters recently which the writer said contained pathogenic bacteria which would inevitably cause a fatal sickness in the recipients unless they left a large amount of money as directed in which case the writer of the letter would send an antidote.

—At the annual meeting of the Illinois Association for the Prevention of Tuberculosis, held in Rockford, October 13, the following officers were elected: President, Dr. Geo. T. Palmer, Springfield; vice-presidents, Dr. Tully O. Hardesty, Jacksonville, and Mrs. J. J. Robins, Chicago; secretary, James Minnick, and treasurer, David R. Forgan, Chicago.

—The La Salle County Anti-Tuberculosis League was organized at Ottawa, September 14. The following officers were elected: President, William Bedford, La Salle; vice-presidents, Drs. E. W. Weis, Ottawa; William Schoenneshofer, Lostant; Roy Sexton, Streator; E. P. Cook, Mendota; A. J. Weirick, Marseilles; Benjamin J. Nauman, Peru, and Fred Guthrie, La Salle.

—The cornerstone of the Sanatorium for Advanced Cases of Tuberculosis, which has a 10-acre tract at Fiftieth and Belmont avenues, was laid October 19 under the auspices of the Jewish Consumptives' Relief Society, which is endeavoring to raise \$50,000 for the new work. It is intended to make the institution one of the best in America. It will take care of patients that are refused by other institutions.

—The alumni of the Illinois Charitable Eye and Ear Infirmary, which since its establishment in 1858 has graduated less than seventy-five persons, have formed an association with the object of holding an annual meeting in the effort to differentiate them from many who make claim to be alumni of the infirmary, after having made only clinical visitations. An emblem has been selected, to be presented to each alumnus who completes his services in the institution.

—The mayor of Evanston, aided and abetted by the council, reorganized the public service of that city by appointing a director of public safety with authority and supervision over the police, fire and health departments, thus reducing both the honor and emoluments of heads of these departments. The Evanston branch of the Chicago Medical Society thereupon declined to nominate a commissioner of health at the mayor's request. The mayor then appointed Dr. C. T. Roome to the position.

—We have received bulletins or printed notices of meetings of the following societies: The Chicago Medical Society and Englewood and North Shore branches, Dewitt, Montgomery and Rock Island County Societies. As the announced programs are often necessarily changed or curtailed, the announcements do not answer the purpose of a report of the meetings for publication and we rarely publish the announcements for that reason, though always glad to note the enterprise of the societies that publish such bulletins.

—A fine of \$250, was imposed upon Dr. W. Hubert Miller for violation of the postal laws prohibiting the mailing of obscene matter. He was charged with having mailed a letter to a supposed patient offering his services in the practice of "race suicide." In passing sentence on Dr. Miller, Judge Carpenter said:

"In passing punishment I have in mind simply the violation of the postal laws. The crime which Dr. Miller offered to commit is a violation of state laws, and if the state wishes to prosecute, it now has notice of the action taken here."

—The Illinois Conference of Charities held its annual meeting in Rockford, and elected the following physicians as officers and committeemen; first vice-president, Dr. George T. Palmer, Springfield; committee of service, Drs. George T. Palmer, Springfield, and John Bartlett, Galesburg; eugenics, Drs. William L. Healy, Anna

Dwyer and Charles P. Caldwell, Chicago; W. H. C. Smith, Godfrey, and Edith B. Lowry, Chicago; medical social work, Drs. Adam Sz wajkart, Chicago, and A. J. Brislen, Chicago; committee on exhibits and publicity, Dr. H. A. Pattison, Rockford.

Public Health

—The interest in radium as a curative or palliative agent in the treatment of certain cancers and other diseases is assuming the proportions of a furore in Germany if published accounts are to be relied on. It is said that numerous towns and cities are raising large amounts of money by entertainments and subscriptions to purchase the element in the form of thorium which is produced as a by-product in the manufacture of gas mantles. The Radium Institute of London has devoted an increased amount of its \$400,000 worth of radium to the energizing of solutions which retain their radio-activity long enough to treat patients in England, who cannot make the trip to the Institute.

—In our comment last month on the new Missouri housing law a reference was made to cities that constrict model homes for workmen. Cleveland is the last city to propose such construction on a large scale. It is said that under the liberal provisions of the new charter Cleveland will plan a model suburb on 93 acres of land owned by the city and sell 500 homes to workmen at two-thirds the price asked by private contractors.

—It is pleasing to note that the cause of improved medical education has been advanced by the merging of all the proprietary schools in Cincinnati into the College of Medicine of the University of Cincinnati. Dr. Christian R. Holmes has accepted the deanship of the college. A splendid new general hospital of the pavilion type, to cost \$4,000,000, is now under construction on the most modern lines. With the completion of this hospital the college will have an equipment second to none.

—A new departure will be tried out in Johns Hopkins Medical School as the result of a bequest of \$1,500,000 from the General Education Board founded by John D. Rockefeller. The fund will be used to make the teachers of the "four branches" independent of practice to eke out a

living. They can still see and treat patients, but will not receive fees personally.

—The movement for positive eugenics has advanced greatly since our editorial in April, 1912, called attention to the stand taken by Dean Sumner of this city. Three states, Wisconsin, Oregon and Pennsylvania, have passed laws requiring physicians' certificates of fitness of the candidates before marriage license can be issued. Wisconsin provides for "the application of the recognized clinical and laboratory tests of scientific research," and further provides for severe penalties for infraction of the law.

THE OUTLOOK, commenting on these laws, divides the population into three classes, the morally and intellectually best, who do not need such laws; those morally and intellectually the worst, who will not heed them, and the great majority, not very good or very bad, who will be vastly aided by them. It is on this class that the future of the race depends.

Luther Burbank, the California plant wizard, has been converted to eugenics and sums up his views as follows: "Molding men toward a better species—that is the greatest promise my forty years of experimenting hold out. For the ways of plants are ways of men."

Homer B. Terrell, of the U. S. Treasury Department, Washington, formerly of Chicago, was the first to apply to the U. S. Public Health Service for a health certificate preparatory to marrying. It is said that Surgeon-General Blue personally examined him and gave him a "clean bill of health."

—The disposal of the city wastes including garbage, has been a redhot topic of discussion in the Chicago papers and in at least two wards the past month. The garbage reduction plant on the south branch of the river, which had been in use several years ceased operations October 1, as the city and the company could not agree on terms to sell the plant or to continue its use under private ownership. The council has appointed a commission to study the situation and report on all the phases of the problem at a future date. The council meetings have resembled the celebrated "Donnybrook Fairs" when discussing this question, with the mayor and the aldermen lambasting each other with charges and counter charges of bad faith and delay, and Alderman Merriam impartially reviling everyone in sight.

Meantime the situation is up to Dr. Young and Col. Allen who have installed a plant on the north shore channel where the garbage can be treated with chemicals (said to be the sulphuric acid method of Dr. J. M. Hirsch) and then placed in clay holes.

The city has begun condemnation proceedings against the old plant though Dr. Young says it is a "gold brick."

THE CHICAGO TRIBUNE suggests that the city utilize the bridewell on the west fork of the river where it owns land and could have the prisoners make brick, build the necessary plant and carry on the process of reduction of garbage with profit to the city.

Marriage

CARLOS MONTEZUMA, M.D., to Miss Maria Keller, both of Chicago, September 20.

EDWARD LYMAN CORNELL, M.D., to Miss Mabelle Jane Cass, both of Chicago, September 16.

SYDNEY WALKER, JR., M.D., to Miss Isabelle Clarke Irwin, both of Chicago, September 16.

RUSSELL V. THOMAS, M.D., Manteno, Ill., to Miss Cora Lambird of Newton, Ill., September 10.

ARTHUR CHRISTIAN SLINDE, M.D., to Miss Regina Alicia Murphy, both of Chicago, October 8.

ELVIN OTIS BROWN, M.D., Kellerville, Ill., to Miss Lena Felters, at Griggsville, Ill., September 19.

JAN JAROSLAV CEPELKA, M.D. to Miss Frances Pacak both of Chicago, at Crown Point, Ind., September 18.

DELMER R. DUEY M.D., Belleville, Ill., to Miss Elsie Hamilton Huston of Troy, Mo., at St. Louis, October 1.

WALTER A. DEW, M.D., Belleville, Ill., to Miss Mary Wise of Granite City, Ill., at Edwardsville, Ill., September 18.

LAWRENCE JACOBS QUILLIN, M.D., Streator, Ill., to Miss Ethel Shrimplin of Mount Ayr, Iowa, at Warsaw, Ind., September 15.

Deaths

CHARLES WEED SHEPARD, M.D., University of Michigan, Ann Arbor; died at his home in La Rose, Ill., October 1, from heart disease, aged 66.

HARLEN W. CARTER, M.D., Medical College of Indiana, Indianapolis, 1880; formerly of Moline, Ill.; died in Indianapolis, Ind., September 6, from cerebral hemorrhage.

HENRY HARRISON SLOAN, M.D., Chicago Medical College, 1869; for thirty-two years a practitioner of Chicago; a veteran of the Civil War; died at his home in Rogers Park, October 9, aged 77.

HUGH LEE COURTRIGHT, M.D., St. Louis College of Physicians and Surgeons, 1909; formerly of Kellerville, Ill.; died at the home of his mother in Des Moines, Iowa, September 15, from tuberculosis, aged 28.

LORIN HALL, M.D., Bellevue Hospital Medical College, 1880; formerly a member of the faculty of the University of Michigan, and for ten years a practitioner of Chicago; died at his home in Wilmette, Ill., October 9, aged 59.

JAMES FRANKLIN EDDINGTON, M.D., Louisville (Ky.) Medical College, 1878; a member of the Illinois State Medical Society and local surgeon at Enfield for the Louisville & Nashville Railroad; died at his home, September 1, from heart disease.

CHARLES ELWYN FOGG, M.D., Rush Medical College, 1879; a fellow of the American Medical Association; died at his home in McConnell, Ill., September 18, from the effects of morphin self-administered, it is believed with suicidal intent, aged 60.

JOSEPH NEELY HOPKINS, M.D., College of Physicians, Keokuk, Iowa, 1885; a Fellow of the American Medical Association; for many years a practitioner of Burnt Prairie, Ill.; died at the home of his sister in Princeton, Ind., October 7, from neuritis, aged 67.

JOHN ARCHIBALD McDONELL, M.D., University of Buffalo, New York, 1875; a member of the Illinois State Medical Society; professor of surgery in Bennett College of Eclectic Medicine and Surgery, Chicago; died at his home in that city, September 19, aged 66.

HIRAM S. PLUMMER, M.D., College of Medicine and Surgery, Cincinnati, 1860; Illinois Army Board, 1862; assistant surgeon of the 110th Illinois Infantry, U. S. V., and later surgeon of the 152d Illinois Infantry, U. S. V., during the Civil War; since that time a practitioner in Mount Vernon, Ill., and once mayor of that city; died at his home, August 28, aged 82.

Book Notices

MEDICAL MEN AND THE LAW. A modern treatise on the legal rights, duties and liabilities of physicians. By Hugh Emmett Culbertson of the Ohio and New York bars, contributing editor to the Laning, Ohio, "Encyclopædia Digest"; "Notes on the American Decisions and Reports," and many other legal publications. Lea & Febiger, Philadelphia and New York, 1913. Price, \$3.00 net.

If one will look over the medico-legal literature of the day he will soon be convinced that physicians are much too frequently mixed up with the law. Malpractice suits are much more frequent now than in former years. One reason for this increasing number of malpractice suits is the fact that physicians do not know what is required of them by the law.

The laws, generally speaking, are not particularly severe or exacting on the physician, and with a fair degree of knowledge of the law relating to doctors, the intelligent doctor would always be in a good position to defend himself against malpractice suits.

The book "Medical Men and the Law" was written for the purpose of giving the doctor the information he needs in order to protect himself from malpractice suits. The book is written in a plain, interesting, readable style, with all technical terms omitted, and any physician with just a few hours' time may, by reading it, acquire much information concerning the things which most frequently are the cause of malpractice suits.

Every physician who is practicing medicine should read this book.

MANUAL OF OTOTOLOGY. By Gorham Bacon, A. B., M. D., professor of otology in the College of Physicians and Surgeons, Columbia University, New York; aural surgeon, New York Eye and Ear Infirmary; consulting otologist, Roosevelt Hospital, Presbyterian Hospital, Hospital for Ruptured and Crippled and Minturn Hospital, New York. Sixth edition, revised and enlarged, with 164 illustrations and 12 plates. Lea & Febiger, New York and Philadelphia. 1913.

Fresh from the press of Lea & Febiger comes the sixth edition of this "Manual of Otology." The mechanical make-up of the book is excellent—good paper, clear print of readable size. The majority of the illustrations and diagrams are fine.

The text covers the field of otology in a commendatory manner; brief at times but clear and up to date. The medical treatment of many aural conditions is well presented, and the surgical procedures are made clear in many instances by good cuts and color plates.

We think it an excellent work for the busy man and the student will find it more convenient than

some of the large volumes, with equally as much information. We recommend it to the profession.

GENERAL MEDICINE. Practical Medicine Series, 1913. Vol. VI. Billings and Salisbury.

This volume seems to be a good review of the year's work in medicine, and will be appreciated by the general practitioner. The specialist in other lines will be interested in the review thus offered because he can keep abreast of the new in medicine without extensive reading. This volume may be had singly or with the other volumes of the series.

A CLINICAL MANUAL OF MENTAL DISEASES. By Francis X. Dercum, M. D., Ph. D., professor of nervous and mental diseases, Jefferson Medical College, Philadelphia. Octavo of 425 pages. W. B. Saunders Company, Philadelphia and London, 1913. Cloth, \$3 net.

A textbook of mental diseases most useful to the student perhaps, but especially valuable to the practitioner of general medicine. While perhaps most mental cases eventually become patients of the specialist, they all come first to the general practitioner, and he should be able to diagnose their condition early. Some of these mental cases could be relieved much more promptly if diagnosed early.

The book is written in a plain, readable style. The subjects are presented in as concise form as is practicable. The author does not indulge in long-drawn-out theories. The field is well covered—some subjects perhaps briefly. We recommend this volume to the student or to the general practitioner.

OBSTETRICS. A manual for students and practitioners.

By W. P. Manton, M. D., professor of obstetrics and clinical gynecology, Detroit College of Medicine, Detroit, Mich. Second edition, revised and enlarged; including selected list of state board examination questions. 12mo., 292 pages, with 97 engravings. Cloth, \$1 net. Lea & Febiger, publishers, Philadelphia and New York. 1913.

A handy little pocket volume, 292 pages, full of facts. Especially convenient to the student who wishes to refresh his memory. The questions appended to each chapter are particularly useful to those preparing for examinations.

The practitioner will often find it useful when lack of time forbids an extensive reading of a subject.

SEXUAL IMPOTENCE. A practical treatise on the causes, symptoms and treatment of sexual impotence and other sexual disorders in men and women. By William J. Robinson, M. D., chief of the department of genito-urinary diseases and dermatology, Bronx Hospital and Dispensary; editor The American Journal of Urology, Venereal and Sexual Diseases, etc. 1913. Critic and Guide Company, 12 Mt. Morris Park West, New York. \$3.

Perhaps no subject pertaining to human ills has been so neglected by medical teachers or medical textbooks as the subject discussed in this volume. While

legitimate medical literature was indiscreetly silent on sex teachings, the quack literature was teeming with misinformation, which, as the author intimates, did more real harm than did sexual ignorance or sex abuse.

The doctor will find this work instructive. It deals with the many causes of impotence and sterility and their treatment. It is rather profuse with case histories, shows frequently the results of false teachings. Withal it is a useful little volume and we recommend its reading.

From the government printing office at Washington comes the Hygienic Laboratory Bulletin No. 87. Digest of comments on the pharmacopeia of the United States of America (eighth decennial revision) and the National Formulary (third edition) for the calendar year ending December 31, 1911. By Murray Galt Motter and Martin I. Wilbert.

We have received a bound volume of the Bulletin of the State Board of Health of Kentucky. This volume is the biennial report of the state board of health, 1910-1911. It devotes thirty-seven of its pages to hookworm. Those interested in this disease should secure a copy of the report, as it is a thorough treatise on this condition and written by those having experience.

A TREATISE ON THE DISEASES OF WOMEN. For students and practitioners. By Palmer Findley, B. S., M. D., professor of gynecology, College of Medicine, State University of Nebraska; gynecologist to the Clarkson Memorial Hospital and Douglas County Hospital; fellow of the American Gynecological Society; fellow of the American Association of Obstetricians and Gynecologists; fellow of the Chicago Gynecological Society. Octavo, 954 pages, illustrated with 632 engravings in the text and 38 plates in colors and monochrome. Cloth, \$6 net. Lea & Febiger, Philadelphia and New York. 1913.

Another new work on "The Diseases of Women," by Palmer Findley, B. S., M. D., is from the press of Lea & Febiger. The work is somewhat larger than most works on the subject and is to be commended for several features. The volume is profusely illustrated. Many of the illustrations are excellent. There are in all 632 engravings and 38 plates, mostly color plates. These serve an admirable purpose in the chapters on examinations. There are three chapters on examination of patients, which can be read with profit by anyone practicing general medicine, gynecology or obstetrics.

Another feature to be commended is the discussion of various methods of treatment, aside from the surgical. For this the medical men should be grateful. Many patients must, of necessity, be treated otherwise than surgically, even though they may have surgical conditions, and this book tells us how to treat them, when possible, without the aid of surgery. Gynecologists have been prone to teach gynecologic surgery, but have taught much less gynecologic therapeutics.

The chapter on ectopic pregnancy is especially full and complete—a condition too frequently diagnosed incorrectly. The author writes quite fully on the pathology of the various diseases or conditions, and, of course, is generous in writing of gynecologic surgery.

The print is plain and the mechanical construction of the volume is good. The reader will not be disappointed in the work.

MODERN OPHTHALMOLOGY. A practical treatise on the anatomy, physiology and diseases of the eye. By James Moores Ball, M. D., LL. D., dean and professor of ophthalmology, the American Medical College of St. Louis (medical department of National University of Arts and Sciences). Third edition, revised and enlarged, with 445 illustrations in the text and numerous figures on 24 colored plates. F. A. Davis Company, Philadelphia, 1913. Price \$7.50 net.

The third edition of modern ophthalmology is an extensive work of 911 pages, presenting 445 illustrations and 24 full-page color plates. In addition to a careful revision of the earlier editions it has an entirely new chapter on the legal relations of ophthalmology and one new chapter each on elementary optics and normal ocular refraction.

The work includes chapters on embryology, anatomy and physiology, all of which subjects are treated fully and are splendidly illustrated.

The reader will not fail to note the large number of illustrations throughout the book, nor the very extra character of them.

The chapter on examinations covers 73 pages and seems to leave no portion undescribed. Again do the illustrations become an invaluable part of the chapter. Many instruments are described, illustrated and the method of their use clearly depicted.

Diseases of the eye with appropriate treatment, either medical or surgical, of course, fills the major portion of the book.

The author has the faculty of making one easily understand the subject matter and has produced a volume of equal value to student, practitioner and specialist.

The book is an extensive addition to medical literature and we recommend it to the profession. The author is to be congratulated on the production of such a work and also we must mention the good appearance and the excellent mechanical construction of the volume, which speak for the carefulness of the publisher.

THE DISEASES OF CHILDREN. By Henry Enos Tuley, M. D., late professor of obstetrics, University of Louisville, medical department; visiting physician, Masonic Widows' and Orphans' Home, Louisville, Ky.; secretary of the Mississippi Valley Medical Association; ex-secretary and ex-chairman of the section on diseases of children, American Medical Association; ex-president American Association Medical Milk Commissions, etc. With 106 engrav-

ings and three colored plates. Second revised edition. C. V. Mosby Company, St. Louis, 1913. Price, \$5.50.

From the publishing house of C. V. Mosby Company comes the second edition of "The Diseases of Children," by Tuley.

This book is a textbook written for students' use and for the aid of the general practitioner. It contains 684 pages with 106 engravings and three color plates. Special mention may be made of "Plate 1," showing the buccal exanthem in measles (Koplik's spots).

The work is extensive as regards the number of subjects. The practitioner might sometimes wish for a more exhaustive treatise, but the student especially will find this work valuable.

The subject of infant feeding gets a generous discussion of 64 pages. Especial attention is given to a chapter on production, care and certification of milk. Another excellent feature of the book is that it shows how to examine and treat the baby as well as what to do. This will be appreciated by the younger practitioner.

THE PRINCIPLES AND PRACTICE OF GYNECOLOGY FOR STUDENTS AND PRACTITIONERS. By E. C. Dudley, A. M., M. D., ex-president of the American Gynecological Society; professor of gynecology, Northwestern University Medical School; gynecologist to St. Luke's Hospital, Chicago; ex-president of the Chicago Gynecological Society; one of the founders of *Congres Periodique International de Gynecologie et D'Obstetrique*; fellow of the Royal Society of Medicine, England; surgeon in the Medical Reserve Corps, United States army. Sixth revised edition, with 439 illustrations and 24 full-page plates in colors and monochrome. Lea & Febiger, Philadelphia and New York. 1913.

Lea & Febiger have recently issued the sixth revised edition of this work. The necessity of the sixth edition proves the value of the book. The work contains nearly 800 pages, has 439 illustrations and 24 full-page color plates. These illustrations are practically all good and fulfill their purpose very well.

The introduction is from the author's presidential address delivered at the annual meeting of the American Gynecological Society, 1905, and is a plea for specialism in gynecology or for special gynecologic surgeons. One might think the specialty were not on a firm standing. Operative procedures are described in the author's brief, clear way and are so illustrated that the reader may not fail to understand them readily.

The book covers a large field and one is likely to fail in his search for a gynecologic subject not discussed. The medical treatment is not so complete as one might wish and other therapeutic measures are not given much space. It is essentially a surgical gynecology, but an excellent one, and the reader who is operating in the abdomen or vagina should possess a copy.

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Original Articles

IS STERILIZATION DESTINED TO BE A SOCIAL MENACE?*

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It is hardly necessary for me to state that I am thoroughly in sympathy with the employment of sterilization in social therapeutics. I was one of the pioneers in promulgating the theory and practice of sterilization of the socially unfit, and have had no occasion to change my views as to its value.

It is a truism that any therapeutical resource which is beneficially potent is also capable of harm. This is quite as true in social therapeutics as in the ordinary kind. Social antiseptics and narcotics have in them the elements of danger.

It is the purpose of this paper not to attack sterilization, but to briefly suggest some of the possible evils of sterilization of the fit which, perhaps, may eventually affect its advantages.

STERILIZATION A POSSIBLE MENACE TO THE STATE.

Through the publication of laws providing for the sterilization of the unfit, the laity is already becoming familiar with the technic, safety and effects of sterilization upon the sexual function. The consequence is that more often than the profession at large is aware, laymen who are not of the unfit are appealing to the surgeon for the prevention of the procreation of children, with its attendant cares, expense and responsibilities. That the surgeon will one day be still oftener appealed to is inevitable. The assumption of the responsibility of procreating and rearing children demands a certain degree of self-abnegation and self-sacrifice which many of both sexes gladly avoid. The fact that sterilization in

either sex does not impair sexual power is likely to appeal very strongly to the average layman.

The desire to avoid the physiologic results of the sexual act is necessarily stronger out of wedlock than within it.

Not only will sterilization appeal to the male sex, but often also to the female, perhaps in some instances more strongly, because of the fact that the burden of responsibility and care of bearing and rearing children falls most heavily on the female.

THE ECONOMIC PHASE OF STERILIZATION.

The foregoing considerations are inextricably commingled with economic conditions. The increased cost of living, which means increased obstacles to matrimony, bears particularly on the expense of rearing a family. Economic conditions, which are already bad enough from the cost-of-living standpoint, are likely to grow worse instead of better, and the proportion of marriages will necessarily decrease. Sterilization obviously may be accepted by many as the answer to some of the problems which confront society in reference to the expense incidental to rearing a family.

A very important phase of the economic problem that confronts people of marriageable age is necessarily the probability of children. Under present conditions many wage-earners are compelled to remain celibates because of the disproportion between wages and the amount necessary to maintain a family. It is possible that increasing familiarity with sterilization may increase the proportion of marriages among wage-earners.

THE MORAL ASPECT OF STERILIZATION.

While it may be an open question whether sterilization of either the fit or the unfit will increase the proportion of marriages, there can hardly be any doubt as to the demoralizing effect

*Read before the Chicago Medical Society, Oct. 1, 1913.

of the operation according to present ethical and moral standards of sex relations.

Under present conditions a rapidly increasing class of wage-earners is commanded by society to remain sex-neuters. This is especially true of the female wage-earner. The sex function alone of all the functions of the body is commanded by ethical considerations and moral law to remain dormant. As a matter of fact, however, it does not remain dormant. Society has not yet arrived at the stage of development which would enable it to openly face this issue. Society merely shuts its eyes and goes on mouthing legal, ethical and moral inhibitions of the biologic law.

If the practice of sterilization becomes at all general, society may be compelled to admit that inhibition of sexual immorality has depended as much upon the danger of paying the physiologic penalty, especially on the part of the female, as upon any moral or ethical influence *per se*.

STERILIZATION AS A SUBSTITUTE FOR THE ABORTIONIST.

However much the fact may be deplored; however strenuously we may legislate and preach against abortion, the practitioner of this illegal operation is, under present moral and economic conditions, to be reckoned with as a social institution—indeed, he is a social demand. Aseptic safety and the substitution of the word “curette” for the term “criminal operation” have merely served to conceal the fire and make the custom more wide-spread among supposedly decent physicians. Sterilization may prove to be a social factor which will greatly limit the practice of abortion.

STERILIZATION AND THE CHURCH.

The church, which has always exercised a supervision over the right of the human being to procreate or not to procreate, will soon, in my opinion, have a very important problem on its hands and will have to join with the state in the endeavor to regulate the practice of sterilization.

Whatever religious views one may hold upon the subject, and whatever social theories one may entertain, it must be admitted that the individual right to determine whether or not he or she shall have children, and when, and how many shall be procreated, is at least an open question.

The large family is an ideal proposition in the

abstract, but in the concrete, in the light of present economic conditions, there are those who believe that not to be born at all is better than a life of misery and degradation, and that a few children properly reared, should be the ideal of the family rather than a large number of children who can by no possibility be brought up as healthy and useful citizens. That woman should be sacrificed, as she often is, to the Rooseveltian idea of a large family has never been quite as clear to me as it seems to be to some.

RELATION OF STERILIZATION TO ILLEGITIMACY.

Should sterilization supplant the abortionist as a social factor it will be a saving factor for certain of the unborn. Society's attitude toward the abortionist and his patrons is about as inconsistent as any social folly that could be mentioned.

The woman who bears an illegitimate child becomes a social pariah. She is downtrodden by man and despised by woman. Her child is branded as a bastard before it is born, and branded deeper directly afterwards. The State practically does nothing to save its life, preserve its health and morality and develop it into a useful citizen. If such children were the arbiters of their own destinies, they never would be born.

A demand is created by society itself for the abortionist, and then society penalizes the operation and rubs its hands in hypocritical and savage glee whenever a poor starveling who is caught in the act is convicted and sent to the penitentiary as punishment for his carelessness in getting caught and a sop to the Cerberus of ethics and morality. The fact that where one abortionist is punished thousands go unscathed does not weigh in the balance. There is more joy in the penitentiary over the one sinner who is caught than there is shame in society over the myriads who escape.

INDIVIDUAL RIGHTS VERSUS STATE RIGHTS.

I will concede, for the sake of argument, the right of the individual, male or female, to be sterilized, especially in view of the fact that, in the case of the male, sterilization may be only temporary. I will also still concede that sterilization is a valuable therapeutic resource in certain diseases, and a valuable prevention of the transmission of disease and degeneracy to the unborn. I will further concede that under proper regulations and the restriction of the opera-

tion to the unfit, save where it is employed for the cure of disease, it will be of immense advantage to the State. I nevertheless, am of opinion that laws to protect society by sterilization of the criminal and other unfit classes must logically be followed by laws to protect society against sterilization of the fit, said laws being in the way of regulation of the operation.

As to where individual rights will end and State rights begin in the matter of sterilization, that is a subject which will require very careful study, wide experience and considerable time for its elucidation.

The regulation by the State of the surgeon's side of the practice of sterilization in private practice is an obvious corollary of regulation in general and will be the most direct method of attacking the evil of indiscriminate sterilization. How effective this would be is an open question. Judging by the failure of our laws for the suppression of criminal abortion, one would be justified in pessimism. The moral argument against sterilization can never be as strong as that against abortion. Sterilization is not child-murder, but is a preventive of child-murder.

The foregoing possibly will be considered by some as a prophecy by a social alarmist. I believe, however, that this paper comprehends merely the logical results that may be expected to accrue from the inevitable familiarity of the public with sterilization and its results. Possibly it may come with better grace from one who has always been a strenuous advocate of sterilization as a factor in social therapeutics, than from others who have not been quite so friendly to this particular method of social self-defence.

32 N. STATE ST.

THE TREATMENT OF HERNIA IN CHILDREN *

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ABSTRACT

The conclusions in this paper are based on the treatment of a large number of cases and a study of the literature. This study has been carried on for a period of twenty-six years and was originally begun as a result of the observation that in

children which had suffered from strangulated hernia which had been reduced without operation permanent spontaneous cures resulted by simply keeping the children in bed with the foot of the bed elevated for a short time, at the same time overcoming the abnormal abdominal pressure by careful dieting and medication.

Similar results were observed in patients confined to bed following the operation of circumcision for the relief of phymosis. These observations seemed to indicate a greater tendency of hernia in children to heal spontaneously as soon as the exciting cause was removed than was generally supposed at the time these observations were begun. This led to a study of the literature.

The most important one of the older works studied was that of Malgaigne, which included all of the statistics of the French army for a number of years.

These statistics show that there is one hernia for every twenty-one children during the first year of life; that this proportion remains true up to the age of 6 years; that then there is a rapid decrease until there is but one hernia in seventy-seven children at the age of 13. During the years immediately following there is a constant and rapid increase of herniae in the male, so that at the time of recruiting the armies, which occurs at the ages of 20 and 21, there is one hernia in thirty-two males. In the female, there is no further increase until the beginning of the child-bearing period, when there is at once quite a sudden increase in the number. At the age of 28, there is one hernia for twenty-one persons; at the age of 30 to 35, one hernia for seventeen; at 35 to 40, one for nine; at 50, one for six; at 60 to 70, one for four, and at 75, one for three. From this stage on the patients suffering from hernia seem to die more rapidly than the remaining proportion of the population so that from the age of 80 to 85 there is but one hernia in fourteen persons; from 85 to 86 but one in twenty-three, and among those whose age exceeds 86, but one in fifty-six. It is plain, however, that the only time at which we can be absolutely certain that the statistics are correct is at the age between 20 and 21 in the male, because at this time all the males are actually examined by competent surgeons.

According to these statistics if no new herniae were formed between the ages of 6 and 13, 73 per cent. of all hernia in children at 6 years of age would have healed spontaneously by the age of 13. But the percentage is much greater, because many of the children at the age of 13 have

* Read before the Chicago Medical Society, Jan. 29, 1913.

acquired their herniae since they were 6 years of age, especially because during these years most of the herniae due to whooping cough and other coughs appear.

In our experience only about 5 per cent. of the adults coming under our care for treatment of hernia give a history of having had herniae during childhood. This corresponds almost exactly with the observations of Berger, who states from his statistics, that of 9,967 adults with hernia, only 479 gave a history of having suffered from this condition since childhood. Bull and Coley's statistics show almost identical proportions; out of 15,000 adults with hernia, only 700, or less than 5 per cent., have been ruptured since childhood. This proportion is borne out in a remarkable manner by the fact that the four hundred cases which the latter authors had selected for operation were chosen from 8,000 children suffering from hernia, which indicates that there were not more than 5 per cent. of the children examined in whom it seemed necessary to treat the condition with operation. All of these facts show that the tendency toward closure of the natural abdominal openings which should have been completed before birth continues during childhood if there is not a marked anatomical defect beyond the fact that the peritoneal projection into the canal has not been closed, and provided also that the abnormal intra-abdominal pressure has been eliminated.

Thomas Charles Martin shows that in the broadening of the pelvis the parietal peritoneum enlarges at the expense of the mesentery; the latter being thus shortened prevents the entrance of the intestines into the inguinal canal. At the same time there is a displacement of the internal ring, which still further aids in curing the hernia.

The more recent articles seem to be uniform in considering the subject from an entirely different standpoint. They base the proposed surgical treatment on the fact that herniae in children can be cured easily and safely by surgical operation; that herniae occur in individuals in which the inguinal canal was not closed normally during fetal life, that the treatment with trusses gives rise to great discomfort, and on the further theory that if not operated on in childhood, these patients will require operation for the relief of hernia later in life. This theory has, however, not been borne out by facts.

The causes of hernia in children can be classified in the following order regarding their importance: 1. Non-closure of inguinal canal. 2.

Congenital separation or weakness of structures surrounding the inguinal, femoral or umbilical opening, frequently hereditary. 3. Abnormal length of mesentery and omentum. 4. Abnormal intra-abdominal pressure due to (a) faulty nutrition; (b) to constipation; (c) to phymosis; (d) to coughing; (e) to vomiting; (f) to crying and straining; (g) to traumatism and (h) to over-exertion.

The following conditions make up the 5 per cent. of herniae in children which require operation. They can be recognized easily in most cases and consequently there can be no reason for operating on the remaining 95 per cent., which will heal spontaneously if the exciting cause has been removed.

STRANGULATED HERNIA IN CHILDREN

If a strangulated hernia in a child cannot be easily reduced under complete anesthesia, by taxis, the child being held in the inverted position during the manipulations, it is undoubtedly wiser to relieve the condition by an operation, because the intestinal wall in children is very delicate and easily injured by taxis. In my experience the hernial opening has always been very narrow; still I have always succeeded in replacing the hernial contents without enlarging the opening by first drawing out more intestine and then gradually replacing it, the child being placed in the inverted position.

If the hernia is an acquired one, which is not common in children, the sac is carefully dissected free to a point within the abdominal cavity. It is then ligated and removed and the ligated stump is permitted to retract into the peritoneal cavity.

If the hernia is congenital it is best to dissect up the neck of the sac for about an inch and to leave the portion surrounding the testicle to form a tunica vaginalis, while the upper portion is carefully dissected up to a point within the peritoneal cavity; it is then ligated, the superfluous portion is cut away and the stump is permitted to retract into the peritoneal cavity, as in case of acquired hernia. It is thus only necessary to close the skin and the opening will close completely in from four to six weeks if the child is kept in bed with the foot of the bed elevated. R. H. Russell gives in support of this simple operation, the fact that inguinal hernia in children occurs because of the presence of the hernial sac, which has remained after the testicle descended into the scrotum. Consequently, all that is required for the purpose of curing this hernia permanently is to completely remove the sac. His

experience as to results, which has been fully borne out by our own, seems to justify this view.

H. O. Marcy has for many years repeatedly directed attention to this condition. That equally satisfactory results can be obtained by following Bassini's or Halsted's method can easily be seen, especially from the statistics of Coley and those of Halsted and Judd. However, Funke and others have noticed severe atrophy of the testicle following herniotomies in children, in which an attempt was made to close the inguinal canal.

If it is possible to reduce a strangulated hernia in children by taxis, the irritation caused, primarily by the strangulation and secondarily by the manipulation, seems to favor closure of the hernial opening. I have repeatedly seen this occur within six weeks if the child was kept in bed in the inverted position.

The most unfavorable cases are those in which the abdominal walls are congenitally weak, a condition which seems to be hereditary in many patients. Again, of these cases, those in which there are three distinct areas of weakness—the abdomen of the three hills described by Malgaigne—seem to be least favorable of all. In this class surgical treatment usually becomes necessary, and here it is well to perform the typical Bassini or Halsted operation, or that described by Ferguson at the meeting of the American Medical Association in June, 1899; the important point in the operation being to secure an accurate closure of the inguinal canal to make up for the natural deficiency in the tissues. Two precautions should be borne in mind: 1. The stitches should be tied very loosely, in order not to cause pressure necrosis of the already weakened tissues. 2. The tissues of the cord in the male should be manipulated very carefully for fear of causing an atrophy of or preventing the full development of the testicle. This is especially important in this class of cases, because herniae in congenitally defective patients are very likely to be double, and if both testicles should atrophy, the patient would be permanently injured. In this class very frequently no truss will retain the hernia.

REDUCIBLE HYDROCELE

It is no uncommon to find a hernial sac opposite the internal inguinal ring and the portion beyond distended with fluid in the inguinal canal, preventing the closure of the latter opening. It is, of course, impossible for the patient to wear a truss with comfort and unless the fluid is removed this cannot heal. Simply making a small incision over the inguinal canal, ligating the upper end of the sac opposite the internal ring,

cutting away beyond this ligature and closing the wound in the skin has in my experience invariably and permanently cured these cases. In a number of these I have obtained the same result by tapping the sac and injecting 5 drops of 95 per cent. carbolic acid, but the other operation seems preferable. In some instances it is not possible to excise this sac because it cannot be separated from the cord. In these cases it will suffice to split it longitudinally and evert the edges around the cord, suturing them in place with fine catgut. This places the serous surface of the sac in apposition with a raw wound surface which will prevent reaccumulation of fluid.

There is but one other condition which justifies the operative treatment of hernia in children, and that is when on account of adhesions, the hernia, although not strangulated, is still irreducible. In this class of herniae a truss cannot be worn with benefit, because of the empty canal. Moreover, the opening not being empty, its closure is necessarily impossible unless the adhesions are absorbed, which, if occurring at all, necessarily require a long space of time. In this variety of hernia, unless it be complicated with the form just described, it is not necessary to do anything further than the operation indicated in case of strangulated hernia. The hernial sac being removed, the opening will again close spontaneously.

In the operation for the relief of femoral hernia in children, it is never necessary to do anything beyond dissecting out, ligating and cutting away the sac, permitting the stump to retract into the peritoneal cavity and closing the skin. These cases are exceedingly rare. I have never seen a strangulated femoral hernia in a child and only once an irreducible one due to an adherent omentum, which necessitated an operation.

USE OF TRUSSES

Too much stress has been laid on the importance of trusses in the treatment and too little on removing the causes of hernia in children.

It is far easier to retain a hernia and thus encourage the closure of the hernial opening by first relieving the abnormal intra-abdominal pressure and then applying the truss simply as an aid, than it would be to accomplish the same object by the use of the truss alone.

If it is at all possible it is always best to place the child in bed in the inverted position and to reduce the intra-abdominal pressure by the methods which have been described above, before making use of a truss at all. Then, if it is not

possible to maintain this position sufficiently long to obtain a cure, it is well to apply a perfectly fitting truss which should make only just enough pressure to retain the hernia.

The fact of using a truss does not make the other precautions unnecessary. The child should still be cared for so as to remove abnormal intra-abdominal pressure from every cause, and the foot of its bed should still be elevated in order to make use of gravity in keeping the hernia empty and to facilitate the shortening of the mesentery.

My observations and a study of the available literature on this subject have led me to accept the following conclusions:

CONCLUSIONS

1. The development of herniae in children is favored by (a) faulty development of the abdominal wall; (b) insufficient strength in the tissues involved in closing the umbilical, inguinal or femoral openings; (c) abnormal intra-abdominal pressure; (d) unclosed condition of the tunica vaginalis.

2. The causes (a) and (b) are frequently inherited.

3. The abnormal intra-abdominal pressure is due (a) to gaseous distention resulting from improper feeding; (b) to the exertion necessary to evacuate the bladder on account of obstruction due to phimosis; (c) to severe pressure necessary in defecation in case of constipation; (d) to severe, long-continued coughs; (e) to vomiting; (f) rarely to traumatism or over-exertion.

4. Approximately 95 per cent. of all cases of hernia in children will heal spontaneously if the abnormal intra-abdominal pressure is relieved and the hernial sac is kept empty.

5. This can be accomplished by means of trusses or much more rapidly in inguinal and femoral hernia, by placing the child in bed with the foot of the bed elevated; the time required usually does not exceed six weeks and in most cases the hernia will heal on relieving the abnormal intra-abdominal pressure and simply placing the child in bed with the foot of the bed elevated each night from 6 p. m. to 8 a. m. the following morning for several months.

6. Children with a tendency to the formation of hernia should be guarded against developing coughs.

7. Their diet should be given at regular times and chosen with a view to avoiding gaseous distention.

8. Constipation should be entirely prevented.

9. In case of boys, phimosis should be relieved if present by operation.

10. Badly nourished and badly cared for children of the poor should be treated in hospitals, being placed in bed in the Trendelenburg position, the cause of increased intra-abdominal pressure being removed at the same time by proper diet and treatment.

11. Operation is indicated (a) in strangulated hernia; (b) in irreducible hernia due to adhesions; (c) in case the opening is unusually large in a free hernia, especially if the condition is hereditary; (d) in reducible hydrocele; (e) in cases with undescended testicle unless they show a tendency toward spontaneous cure.

12. Except in Class C, the operation should consist simply in carefully dissecting out the sac or in certain cases of inguinal hernia the neck of the sac, ligating it within the abdominal cavity, cutting away the sac and permitting the stump to retract within the abdominal cavity and closing the skin wound.

13. In Class C the Ferguson-Andrews operation is indicated.

14. In Class E the Bevan-Ferguson-Andrews operation is indicated.

15. The recumbent position, with the foot of the bed elevated, is of very great importance in the after-treatment of operative cases as well as in the non-operative treatment of hernia in children.

16. In young children who will not remain in bed with the foot of the bed elevated, this position can usually be maintained by applying rubber adhesive straps to both lower extremities and having these held in a vertical position by means of weights and pulleys.

17. If the child cannot be kept in this position, a well-fitting truss should worn night and day until there has been no protrusion for at least six months; at the same time the necessary precautions must be constantly taken to guard against abnormal intra-abdominal pressure from any cause.

THE PHYSICIAN AND THE DEFECTIVE *

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According to recent estimates, approximately twenty thousand persons of defective mentality are now living in Illinois. Some observers would go even higher, so that instead of allowing one

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in every 280 persons to be feeble-minded they would have it one in every 250, making the total greater by 2,500. Twenty thousand is a number sufficiently large that one can hardly realize what economic questions to the state are involved.

In the past decade, or rather during the last five years, much has been said and written about what must ultimately be done with these people, so much in fact, that it has almost reached the stage of being a vogue. We have had with us from time immemorial the insane and feeble-minded, but people generally, until recent years, have chosen more cheering fields for their efforts at reform than thinking about these subjects.

Illinois has one state institution for defectives—the Lincoln State School and Colony, formerly known as the Illinois Asylum for Feeble-Minded Children, at Lincoln—the object of which as stated in the creating act was “to promote the intellectual, moral and physical culture of the class of persons indicated in the title, and to fit them, as far as possible, for earning their own livelihood and for future usefulness in society.” This institution, which is now crowded to its capacity with an enrollment of 1,600, has far more children than can be dealt with properly. Comparatively few are being cared for in private institutions. What of the remaining 18,500 or more children of this type in the state? What can be done for them? How best may they be handled? Allow conditions to go on as before? Create other state institutions, or regulate and make more stringent the marriage laws—desexualize those who are examples of this type, pass laws to compel the larger municipalities to create institutions for the care of their own defectives? All these suggestions have been offered in partial solution of the problem. By physicians? Yes, some physicians, but for the most part by political economists, psychologists, eugenists, settlement workers and sociologists in general, all of whom have joined in placing before the public an educational propaganda whereby thinking people will pause and give heed to the needs of the situation.

Among those who are actively engaged in this work the question of handling the defectives now here is but dimly secondary to that of prophylaxis against their future multiplication. To one who comes frequently in contact with the parents of such offspring there can be no doubt as to the strong part ancestry plays. This knowledge, then, involves the several theories of solution enumerated.

With the utmost respect for the labors of those

others who are busily engaged in trying to clear the situation, after all is it not the physician who should point the way? Those defectives now in institutions are under medical supervision, the policy for their handling being under medical men; the specialist in nervous and mental diseases is often consulted for the final word as to the disposition of such a child; but the general practitioner of medicine is the one to whom I appeal. He is the pivotal force by whose use more can be accomplished, I believe, than by any other single agency. His position is such a one of trust and confidence with his clientele that his influence and advice would be most potent factors in the education of the general public on matters concerning the disposition of such defectives as are now with us, as well as creating a general sentiment that could be crystallized in the instructing of legislators to enact such laws, for instance, to govern marriage—with especial reference to the fitness of the contracting parties for taking that step, to regulate the sterilization of those not properly qualified to procreate, providing for new institutions necessary to care for this class, etc., as the exigencies of the occasion seem to demand.

The physicians should be the leaders in their respective communities on matters of this kind, but to develop an able and intelligent method it is of importance that they must devote enough time to qualify for such leadership. The questions of what to do with our defective, and what to do to prevent their increase, are sufficiently broad to warrant a more widespread attention, as their solution is as yet by no means assured. It would then seem that the first need would be for the general practitioner to show a greater interest.

There has undoubtedly been heretofore a disposition among the members of the profession to hand on such cases as reach them, and to do so at the earliest possible convenience, thereby sidestepping more than a nominal amount of responsibility. As the great majority of cases admitted to institutions for the feeble-minded and defective are so placed only with the final consent of their relatives or next friends, the tendency on the part of the doctor to hold out an alluring picture for the decided benefits likely to accrue in each case, as an inducement for the step to be taken, is unfair to all parties concerned. Not only does this practice make toward overcrowding institutions so much that their work is reduced in effectiveness, but it allows the relatives and friends of such a child to build false hopes for

an eventual "cure" and restoration to normal state. To make a most liberal estimate not more than one in a thousand of really defective children is susceptible to such treatment as would result in a "cure." It would be easy for the physician to acquaint himself with the facts so that while not presenting too discouraging a prognosis his optimism could be curbed by confining the outlook to the degree of improvement instead of the possibility of cure. And, in fact, many cases of feeble-mindedness do not improve at all, but do the opposite, losing ground mentally with a resulting dementia, as any one with much experience can testify. Such children may well be likened to that fruit of the tree which drops early and without going on to a healthy maturity. They are shriveled in mind and often in body so that in the very nature of the case too much may not be expected in the way of future development. A brief time devoted to a study of mental defectives as outlined in one of the short and inexpensive texts of the day will quite likely change the aspect of one's understanding and emphasize what it means to posterity to deal intelligently with this situation at the present time.

There are some physical conditions which exist very often among the defective that are susceptible to correction. I refer to abnormalities as enlarged tonsils, adenoid vegetations, nasal polypi or other respiratory obstructions; eye, ear or other special sense defects that can be rectified; bone curvatures, joint contractures and deformities generally that follow cerebral palsies or accompany other forms of paralysis, and injuries, which may be decidedly benefited by the application of the principles of modern orthopedic surgery if taken early. It is important that these conditions, when they exist, be looked after early in the child's life so that the resulting benefit from correction will subtract just that much more from the child's mental retardation. The removal of post-nasal adenoid growths, of enlarged and diseased tonsils or other obstructions to the free passage of inspired air has been so often followed by a mental brightening that these operations are of proved aid. The early examination of the eyes and ears for correctible shortcomings of vision and hearing should be practiced as lack of one or both of these senses may result to a greater or less degree in the state formerly known as "idocy by deprivation," a mental condition certainly amenable to special educational methods.

Associated with the points above related is the

importance of detecting early in life mental defect, and if present, the degree thereof. Late eruption of the first teeth, slowness in talking, delayed ability to use the muscles, especially in walking, presence of a vacant, expressionless facies, and in some cases signs of paralysis, hydrocephaly, microcephaly or other organic lesion serve to indicate roughly that there is faulty brain development and should put the physician on his guard against the making of a too favorable prediction for ultimate development.

By an ingenious system of tests two Frenchmen, Binet and Simon, have given to the world what is known as the Binet scale for measuring intelligence. Working with thousands of average children of various ages these two men devised a series of tests, arranged from below upward in order of difficulty of performance, so that a stated number of the series would represent what a child of normal mentality should successfully pass at the age given. For example, a child of 2 years should be able to:

1. Eye follows light.
2. Block is grasped and handled when placed in its hand.
3. Suspended spool is grasped when seen.
4. Candy is chosen instead of block.
5. Paper is removed from candy before eating, child having seen the wrapping.
6. Child obeys simple commands and imitates simple movements.

Continuing, for a mentality of three years the child:

1. Touches nose, eyes, mouth and pictures of these as directed.
2. Repeats easy sentences of six syllables with no error.
3. Repeats two numerals.
4. Enumerates familiar objects in pictures.
5. Gives family name.

This scale has been elaborated up through the fifteenth year of intelligence, and while it is constantly being revised it seems to be at this time the best means for determining the presence of mental retardation, as well as the amount or degree of such retardation. For instance, a child 7 years of age may pass only through the tests for three years. He is then graded as having an intelligence age of three years with a mental retardation of four years, and so on. A child who does not pass above a two-year intelligence age is called, by this classification, an *idiot*, over two years and below the eight-year level an *imbecile*, and including the eight-year intelli-

gence age and upward he is a *moron*. The three groups of idiots, imbeciles and morons are in turn divided into low grade, medium grade and high grade subdivisions, making in all nine units of intelligence classification. A type is recognized as "backward," an extra stage between the moron and the normal individual. While arbitrary lines are drawn between these intelligence groups the Binet scale offers something definite and tangible, so either a child is found to be normal, below normal or precocious in intelligence.

It is not expected that the ordinary physician, without psychologic training, after having used these tests on a child would be able to make deductions of a technical nature, but he could easily determine gross retardation beyond a question of doubt, for the tests in themselves are easy to give and the apparatus to carry them out can be procured without much difficulty. As a general rule, the child lends himself nicely in an endeavor to perform the tests to the best of his ability, so one may not often be called on to modify the result on account of the child's indifference. The use of these tests by a practitioner when opportunity brings a doubtful case his way will prove another method of showing that he is abreast of the times.

Having decided that a child is defective mentally it may develop for various reasons that it is impracticable to send him to a special retreat for care and education. In any city upward of 2,000 population it will be found that there are several children in the lower grades of the public schools who have failed to pass along, staying for two, three or four years in a single grade, thus acting as a drawback to the progress of those who are brighter and interfering materially with the general welfare of that grade's efficiency. For the good of the majority, this condition should not exist. There may be some physical reason directly responsible for the lack of progress in a given child, or he may be simply defective mentally. At any rate the school physician—there really should be a school physician in every community—should examine these children for physical defect and also aid the teacher in determining the amount of mental retardation if such were present. Children of this type need to be segregated into special rooms where instruction of proper character can be given, and where they may be allowed more time to each task assigned, it naturally following that they be made free from the discouraging feature of witnessing themselves so poor in comparison as has been the

case in their former class-rooms. This practice is already being done in the larger cities, but it should be general. There is no reason why the physicians of a community should not lead in this movement or at least lend an intelligent cooperation in a work where medical questions are so closely interwoven with educational matters of direct public interest.

Another factor of great importance in a medico-legal way is the constant appearance in the courts of this class of offenders. Crimes are committed ranging in degree from the most petty to the most grave of offenses against society. Only recently an account of a most revolting and degenerate act of homicide occurred in our own state—an act which should set every physician to thinking of the necessity of giving this class more sober thought.

The physician is a public institution in himself. In every community of our commonwealth he is present, working directly among the people, watching over their daily ills, in charge of the obstetrical cases; indeed, ushering into the world the little babes on whom the future of our state and country depends. Through colic and through teething, through the ordinary diseases of childhood and the unusual, in fact, through all the tumultuous journey of childhood does the doctor—the "family" doctor—pilot the lives of our future citizens. Is it at all wonderful that parents, as well as the children themselves, repose an enormous amount of confidence in *their* doctor? Confidence that passes far beyond mere physical ailments, causing them to seek a sympathetic and even fatherly direction as to their course in mode of life, in matrimonial affairs, in their very relations with mankind. Confidence that gives many a trust far afield from the strict realm of medical practice. What a wonderful opportunity to do good lies with the "family" doctor! And it is an opportunity too, that has been freely utilized in many an added sacrifice on the part of the physician.

What is asked is to place another load on your shoulders, knowing full well how many are now being carried, an additional burden which means much to humanity in its outlook on the future. The study and solution of this knotty problem carries with it so many angles that are interwoven with the practice of medicine, so many variegated features that require knowledge of a practical as well as technical nature that the physicians of the state and country may do no greater service than to take the foreground in the work that lies in this field.

DISCUSSION

Dr. Frank P. Norbury, Springfield: I asked Dr. Caldwell to come here to contribute this paper to the society. I wish it could have been read at the first day's session, because it is a part of a propaganda which we are agitating in the state on the education of the physician with reference to mental and nervous disorders, especially the problem of the feeble-minded. This problem does not concern Illinois alone; it is a problem of civilization; a problem which in the past year has been brought before the British Parliament with a view of determining from a legal standpoint the status of the feeble-minded. The bill introduced in the British Parliament is known as the "Mental Deficiency Bill," but unfortunately, through the agitation over women's rights and other discussions of that kind, Parliament adjourned before the bill was brought up for second reading. The bill will be re-introduced, and again discussed with a view of determining the legal definition of what constitutes feeble-mindedness. This is one of the problems that confronts us to-day; a problem that will be brought up in the prosecution of the case the doctor has mentioned. I brought this matter to the attention of several members of the legislature at this session, and have succeeded in getting the agitation started which will ultimately lead to some legal methods of the definition of feeble-mindedness, also the question of the parole of the feeble-minded. Further, the question of an institution for the segregation of the feeble-minded women and all features of a social nature which concern the feeble-minded. We feel that the medical profession as a whole and the people in general do not comprehend the extremity of this great condition that exists in every community; it is up to us to be the leaders in outlining some program. The matter in Illinois is getting pretty fairly under way; in the month of June there will be a meeting in Chicago of alienists and neurologists, it being the second one we have held, which makes direct appeal to the medical profession to get them in touch with this movement. I hope Dr. Caldwell will present this paper at that meeting, as I am anxious it should come before the medical profession and the people. The more knowledge of this kind we have, the better for us and for society at large. The Illinois State Medical Society should foster this propaganda of education.

THE DRY TREATMENT OF LEUCORRHEA AND CERVICAL EROSIONS*

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The dry treatment for leucorrhea has not been given the attention that it should have received. Leucorrhea is the main and persistent symptom of endometritis, endocervicitis, cervicitis and vaginitis; the underlying causes may be gonorrhea, tuberculosis and carcinoma. In most cases the leucorrheal discharge results from a vaginitis which is secondary to an endometritis, the irritat-

ing uterine discharge setting up an inflammation in the vagina. Constitutional anomalies such as chlorosis, tuberculosis, constipation, etc., are also causes of leucorrhea, more than is generally observed. It is unnecessary to say that in treating a leucorrhea one should endeavor to find the cause. If the cause is found, the treatment of the leucorrhea in each case is still necessary. Frequently removal of the cause cures the leucorrhea, but very often we have to be satisfied with the symptomatic treatment. The treatment of leucorrhea has been much neglected in modern therapeutics. So long as we looked upon the endometrium as the sole origin of leucorrhea, our treatment was made directly to the endometrium. It occurred then that we could not do enough cauterizing and irrigating of the uterus. That this treatment was mostly mal-treatment, is becoming gradually known.

The danger in treating locally the uterine cavity is the possibility of further infection of the endometrium, infection of the Fallopian tubes and production of a pelvic cellulitis. Many ascending infections are directly produced by vaginal douches; we would not advise douches during menstruation, or in acute gonorrhea, but in a germ-laden leucorrheal discharge we have considered douches harmless.

Let us consider a case of leucorrhea. Upon separating the labia we observe a white, thick creamy discharge flowing out of the vagina. Insertion of a speculum shows the cervical canal closed with a glary viscid plug of mucus; an endocervicitis is observed. The patient will usually give a history that in spite of disinfecting and astringent douches she has not been able to eradicate the discharge. Suppose we irrigate with a quart of fluid in a case like this, what will we usually notice if a speculum is immediately inserted? In the posterior vaginal vault one will see distinctly portions of the above mentioned discharge. The lower two-thirds of the vagina will be found clean. The effect of the irrigation, to be honest, has been to carry germs to the upper portion of the vaginal canal and to loosen and soften the vaginal epithelium and thereby making reinfection possible.

In general surgery moist treatment of wounds has been displaced by dry treatment. Otitis with perforation, otologist now treat with boric acid insufflations, instead of irrigations. So with

*Read before the Adams County Medical Society, April 14, 1918.

leucorrhea, we must displace douchings with insufflations and the direct applications of powders and produce dryness.

The late gynecologist, Fritsch of Bonn, was the first to suggest the dry treatment of leucorrhea. It was strongly advocated in 1909 by Nassauer of Munich, and in 1910 I saw Liepmann of Berlin use powder treatment and strongly recommend its use. Nassauer used kaolin, but Liepmann made an improvement on this by using a slightly soluble aluminum acetate with kaolin and powdered talcum, the proportions as follows:

Aluminum acetate, one part.

Kaolin, two parts.

Powdered talcum, two parts.

The effect of the powder is to produce absorption of moisture and to act as an astringent. It absorbs pus, mucus and the bacterial flora and makes the latter harmless. The use of the powder treatment also produces a feeling of cleanliness, while the use of glycerin, boro-glycerin and ointments increases the discharge. Erosions of the cervix can be cured with this powder alone without the use of any cauterization. In gonorrheal vaginitis, this compound aluminum acetate powder has a splendid effect. I have used this powder almost three years in my practice and the splendid results I have obtained has induced me to acquaint others with it. Most astounding results have been secured. Women with profuse vaginal discharges, accompanied by foul odors, have returned the next day for further treatment with the statement that the application not only caused a complete disappearance of the discharge, but caused a general well-being: a relief from backache, headache, bearing-down feeling, etc.

The method I use is as follows: A milk-glass speculum of proper size is inserted. The vagina is sponged dry and at least a heaping teaspoonful of the powder is poured into the speculum. With a sponge of gauze the powder is pressed against the cervix and while the speculum is gradually withdrawn the vagina is thoroughly powdered. At the next treatment the moist masses are removed before powder is again applied.

My plan of treatment is usually to give a second treatment the following day, then the 4th, 6th, 8th, 10th, 14th and 18th day. In this way I have given relief to nine out of ten cases.

It is sometimes impossible to get the patients to come to the office for treatment, often they

will refuse to be treated locally and will only accept treatment that they can administer to themselves. To bring relief to this class of patients Nassauer originated an insufflator. A pear-shaped bulb of glass, with an opening through the long axis of the bulb, is inserted in the vagina. At the upper side of the bulb is a reservoir for the powder which falls down in the opening through the bulb. Pressure on a rubber bulb distends the vagina and at the same time distributes the powder everywhere. This treatment may be given twice a day and twice a week the masses are removed by the physician, but where this is not permitted a douche will have to be used. In the treatment of vaginitis of children the powder has proven a blessing. It is applied painlessly with a glass tube of proper size and plunger. The tube is filled one-third and while the plunger is pressed home the tube is gradually withdrawn. A subsidence of the discharge is noted at once.

In conclusion I wish to say that the use of the dry treatment in a few cases of leucorrhea will convince you of its superiority over any moist applications.

SOME OBSERVATIONS ON VACCINE AND SERUM THERAPY FROM DR. MURPHY'S CLINIC*

PHILIP H. KREUSCHER, M. D.
of Dr. Murphy's Staff.

As early as 1880 scientists demonstrated by experiments that bacteria injected into the bloodstream of healthy animals were destroyed by some then unknown specific action of the blood of the animal. In 1885 Fodor injected large quantities of pathogenic bacteria into the blood of the animals, and found that the blood was sterile in forty-eight to seventy-two hours. In 1887 he demonstrated that the blood of guinea pigs was destructive to living bacteria. It was concluded that this was due to some specific toxin which was supposed to be present in the blood of healthy animals. Metchnikoff and his co-workers after years of research advanced the theory that certain leukocytes (phagocytes) had the intrinsic action of taking up, destroying or digesting living pathogenic organisms. This they are enabled to do by the opsonins which in some way combine with the bacteria and prepare them for destruc-

*Read before South Side Branch, Chicago Medical Society, May 27, 1913.

tion by the phagocytes. Dr. A. E. Wright demonstrated that fact, and first used the term "opsonins." He also discovered that these opsonins may be increased by injecting bacterins or bacterial vaccines, and thus an entirely new method of treating infectious diseases was introduced to the scientific world.

Bacterial vaccines are designed to antagonize bacterial infections. This may be accomplished in a prophylactic manner, as illustrated by the antityphoid inoculation, or therapeutically, as by the use of pyocyaneus vaccine in a case of pyocyanous infection. Every healthy animal organism antagonizes pathogenic bacteria, but when the animal of itself does not possess the sufficient antitoxic power, it becomes necessary to increase the so-called phagocytosis by artificial means. The factor which produces this active resistance against the destructive hosts is known as immunity. When the animal organism, by its own power, successfully destroys the infection, we have spontaneous recovery. Under ordinary circumstances every living animal is constantly exposed to possible sources of infection. Bacteria are present in the air we breathe, in our food and drink, as well as on our skin and in our alimentary canals. It is obvious, therefore, that there is some potent natural means of resisting the attack of the organisms, and that it is only when these means fail or are insufficient that infection takes place. This resisting power against the invasions of microorganisms is termed immunity—the exact opposite of susceptibility. Furthermore, the process of natural cure of any infectious disease is made possible by such a degree of immunity as may suffice to destroy the invader.

There are two varieties of immunity—the natural and the acquired. Natural immunity is that which is inherent in the constitution of the animal when born, and not due to any event taking place in its life history. Thus the lower animal is immune to gonorrhea, and the human is immune to the germ of chicken cholera.

The causes which lower the resistance or immunity are of two kinds—general and local. Of the general causes, exposure, starvation, and malnutrition are the most important. Local causes, including injuries, contusions, or irritations due to chemic substances, lower the natural resistance.

Acquired immunity is of two kinds—active and

passive. Active immunity results from a previous attack of a disease contracted naturally or due to artificial inoculation. Syphilis and the exanthemata are good illustrations of diseases conferring an active immunity, although even these are not always absolute.

Passive immunity is that which is conferred on an animal without effort on its part, namely, by the injection of serum from an animal which has already acquired an active immunity against the disease in question. If some of the serum from a horse which has been actively immunized against tetanus is injected into another animal, the latter will also become immune to the tetanus bacillus or to its toxin. Passive immunity cannot be bestowed by the injection of serum from an animal which is naturally immune. When the animal is immune, it contains in its make-up protective substances commonly known as antibodies, which are present in the blood or in the tissue secretions. Among them we may include antitoxins which act by neutralizing the bacterial poisons, and bacteriolysins which destroy the bacteria, and opsonins which in some way prepare the bacteria for destruction by the phagocytes. In contrast to these are the antigens, which are substances that stimulate the production of antibodies. Bacterial vaccines, living or dead, are antigens. The fusion of the diphtheria bacillus used to stimulate the production of diphtheria antitoxins is likewise an antigen. Wright and Douglas employed the term opsonins to designate the elements in the blood-serum which prepare the bacteria for destruction by the phagocytes. By counting the bacteria contained in a certain number of leukocytes and dividing to obtain an average, the so-called phagocytic index was obtained. The phagocytic index of the patient, divided by the average phagocytic index of a given number of normal persons, gives the opsonic index. The determination of this index requires time, skill, and a well-equipped laboratory, and is not considered indispensable to success in this new department of therapeutics.

Wright was first to determine the phases of reaction by means of the opsonic index. A short time (twelve to twenty-four hours) after the inoculation is made the opsonic index falls lower than it was previous to the injection. This he designated the negative phase. After an interval of two or three days the opsonic index rises above

the starting point. This he called the positive phase. After this there comes a point of sustained high tide of immunity. Thus the injections are repeated from time to time, and the positive phase gradually attains a higher level, until it may be as high or higher than that of a normal individual. In other words, if the vaccinations are properly given (never during the negative phase), the patient's tissues are stimulated to an increased production of the opsonins, phagocytosis is increased, the invading bacteria are disposed of, the patient recovers from the infection.

Theoretically, the opsonic index is a valuable guide in determining the size and frequency of the dose of the vaccine, but the process of estimating the index is so intricate, so tedious, and so liable to error in the hands of the average clinician that it is not practicable in our everyday work. It is our conviction, however, that in certain obstinate cases, in which the therapeutic vaccine injections have wholly or partially failed, the study of the opsonins may furnish a most valuable clue to the cause of the failure. In practice the clinical symptoms, such as rise in temperature, increased pulse rate, the amount of local pain, and the inflammatory reactions to the localized infection, and the patient's general condition may be relied upon in determining the size and interval of the dosage.

Our general rule has been to begin with the small dose and progressively increase, immunity being more effectually produced by the repeated injections of gradually increasing doses than by a single injection of a large dose. Should no improvement be noted, the size of the dose may be increased or the interval shortened, or both. If a pronounced clinical reaction occurs, characterized by general malaise and an aggravation of symptoms, it indicates that the dose has been too large. In all our joint cases which receive the combined treatment of vaccine injections and the formalin and glycerin injections into the joint, we have made it a rule never to inject a vaccine on the day preceding or during the three or four days following the joint injections. As a general rule, the intervals between the doses in the more acute or subacute infections vary from three to four days. After the acute symptoms have subsided, the interval may vary from four to five days. In other words, as stated above, never in-

ject during the negative phase when the opsonic index is low, but wait for the reappearance of the high tide of the positive phase.

It is obviously impossible to discuss more fully the various complex steps of the subject of immunity. The physician who wishes to familiarize himself with work along this line may find exhaustive reference in the German work of Wolff-Eisner, or Ricketts' "Infection, Immunity, and Serum-therapy." The work of Citron has recently been translated into the English language, and is very concise and practical.

Definition and Method of Preparation. Bacterial vaccines are suspensions of definite quantities of dead pathogenic bacteria in physiologic salt solution.

Unless the best kind of culture-medium is used, the vaccine will be worthless when the subsequent steps are performed. Bacteria are so sensitive to their environment that it is very easy to attenuate a virulent strain by two or three transfers on unsuitable media. Usually the medium which gives the most prolific growth in the shortest time is the one which attenuates the culture least.

About 95 per cent. of all cultures for vaccines are grown on plain agar, blood-agar, or hydrocele fluid. Plain agar must be made from meat infusion (not from the commercial extracts), from which the muscle-sugar has been removed by inoculation with the bacillus coli. To this there are added 15 gm. of agar-agar, 10 gm. of Witte's peptone, 5 gm. of sodium chlorid, 1 gm. glucose for each 1,000 cc. of the finished product. This is titrated and adjusted so that it takes 1 cc. of 0.1 per cent, normal NaOH to neutralize 10 cc. of the agar. This is tubed in 10 cc. test tubes with 10 cc. for plating, and part put with 5 cc. for slants and then sterilized in an autoclave.

Blood-agar is prepared by adding 1 cc. of sterile human blood to 5 or 10 cc. of agar which has been melted and then cooled to 50° C.

Hydrocele fluid agar is made by adding 1 part of the fluid to 2 parts of 2 per cent agar in the same way.

We use the glucose agar when we expect to find staphylococcus pyogenes aureus, albus, or citreus, B. coli, B. typhosus, B. proteus, or B. pyocyanus; blood-agar when trying for the streptococcus, meningococcus, gonococcus, micrococcus catarhalis, micrococcus tetragenus, micrococcus para-

tetragenus, pneumococcus, bacillus influenza, or Friedlander's bacillus. Since the first group of organisms will also grow well on blood-agar, it is obvious that whenever we are in doubt we always use this medium.

When glucose agar is used, the bacteria are isolated by making several dilutions and plating.

When blood agar is used, the plates must be made at the time the blood is drawn, and subsequently inoculated by streaking the infected material over the surface by means of a bent glass rod or platinum wire. By both these methods isolated colonies are obtained, and pure cultures can be made by "fishing" out the different ones and making subcultures on the differential media necessary.

Pure cultures are essential because:

1. The organisms must be identified in order to determine if they are pathogenic and also to know what temperature must be used to kill them.

2. Different kinds of bacteria have different rates of growth on the same medium, and some organisms grow well together, while others do not, so in mixed cultures we do not obtain the organisms in the proper proportions.

3. Almost all cultures from surface lesions are contaminated with saprophytic bacteria, which usually outgrow the pathogenic ones, and are, of course, useless for making a vaccine.

After pure cultures of the pathogenic organism or organisms are secured it is easy to prepare the vaccine. Only two precautions must be taken: 1. The pure cultures should not be contaminated during the process, and 2, the proper dosage must be obtained.

Method. Several agar or blood-agar slants are inoculated with pure cultures of the organism from which the vaccine is to be made. The bacteria are spread over the entire surface and allowed to grow in the incubator. Twenty-four hours is usually sufficient. Salt solution (0.9 per cent NaCl and 0.2 per cent trikresol) is added to each tube, and the bacteria are washed down by rubbing the colonies free from the surface with a platinum wire. The heavy emulsion is then poured or pipeted into sterile bottle containing glass pearls and thoroughly shaken, either by hand or, better, in a shaking machine. In this way the clumps are broken up and a uniform emulsion obtained. The mixture is then poured into sterile centrifuge tubes and whirled for a

few minutes to remove any particles of culture-medium which may be present. The supernatant emulsion is pipeted into a sterile tube, and is now ready to be standardized.

Standardization of a vaccine means the determination of the number of bacteria in 1 cc. of the mixture. There are several methods for doing this. Wright's is usually the most convenient. When using his technic, we compare the number of bacteria in the suspension with the number of red blood-corpuscles in human blood. We select some one whom we know to have about 5,000,000 cells in 1 cmm. A capillary pipet with a mark about one inch from the tip and several clean slides are the only apparatus necessary. One or two volumes (one volume equals amount of fluid contained in the capillary tube between the mark and the tip), of potassium citrate are drawn up first, then exactly one volume of human blood, and, finally, one volume of the bacterial emulsion. The fluids are immediately expelled on a glass slide, then drawn up and expelled again. This is repeated several times to secure a uniform mixture. Small drops are placed on each of three or four slides, and ordinary blood-smears made. These are stained with methylene-blue or Wright's blood-stain. When examined, we see that the slide has numbers of bacteria distributed around the blood-cells.

A total count is then made of 10 oil-immersion fields of both the red blood-cells and the bacteria. From this count we can determine the number of bacteria per cubic centimeter of the suspension. For instance, if there are 300 bacteria and 500 red blood-cells in the fields counted, we say 300:50::x (the number of bacteria per cubic centimeter):5,000,000. Therefore, x equals 3,000,000, the number of bacteria per cubic centimeter.

Since we have determined the concentration of the mixture, it is easy to dilute it so that we have 100,000,000, 2,000,000, or 500,000,000, in each cubic centimeter. For dilution we use the salt solution which contains 0.2 per cent trikresol, so that we have the same concentration of the preservative in all dilutions of the finished product. The vaccine is now put up in 1 cc. ampules, several for each dilution, and sealed.

These ampules are now sterilized by heating in a water-bath, usually at 58° to 60° C for forty-five minutes.

These are tested for sterility by making cul-

tures on appropriate media and by animal inoculation. If negative results are obtained, the vaccines are ready for use. They are labeled and kept in the ice box until injected.

Vaccine Versus Sera. In the treatment of infections it is necessary to decide whether the therapeutic sera or the bacterial vaccines are indicated. Vaccines, as stated above, are bacterial suspensions which, when injected, stimulate the organism to the formation of antibodies. Sera are fluids containing antibodies already formed, and are injected into the circulation to supply antibacterial elements without stimulating the body-cells to the production of these substances. Hence in the use of sera the antibodies formed in the body-cells of the horse are supplied to the patient, and a condition of passive immunity is established, lasting a few days or a few months.

There has been so much written on biologic therapy that it seems almost unnecessary to discuss the indications and contraindications for vaccines and sera. There is, however, some doubt in the minds of the average practitioners, and even some difference of opinion among the clinicians who use vaccines, just when the vaccines or sera are indicated.

Theoretically, sera should be given only in the toxemias, such as diphtheria or tetanus, but clinical experience has taught us to use sera in the acute general infections where the condition of the patient is such that the blood should be supplied with antibodies already formed, as in serum, rather than to tax the system by injecting bacterial vaccines, thus giving the organism the additional burden of making its own antibodies.

We believe that when the indication arises for the injection of vaccines, there is still one more question to be settled, namely, whether to inject the autogenous, the stock, or the mixed vaccines. We are convinced that the auto-vaccines are the agents par excellence of biologic therapy, and have made it a law that whenever it is possible to isolate a specific organism or specific organisms, the autogenous vaccines should always be made and given in a scientific, systematic, and fearless manner. Why?

1. Their use is most logical and scientific, because they produce the specific antibodies most suitable and most effective for the individual case.

2. Clinically, they have given us the best results.

3. They rarely, if ever, produce harmful or annoying after-effects.

4. Their preparation is simple, requires very little time, and is by no means expensive.

The most serious objection which can possibly be raised is that the time required in preparing the vaccines may greatly hazard the ultimate results. In rapidly progressing infections due to the more common organisms, it has been our custom to give a suitable stock vaccine as the primary dose, while the auto-vaccines are being prepared. Stock vaccines are indicated only in those cases where the suitable auto-vaccines cannot readily be obtained; for example, in the case of acne, where it requires from six to eight days for the full development of the acne bacillus culture. We have used mixed vaccines, both auto and stock, where mixed infection has been clearly demonstrated. Their use does not necessarily signify the physician's inability to make an accurate bacteriologic diagnosis, nor need there be any hesitation on the part of the doctor because of the fact that they have been designated as unscientific. The fact is that there is a clear, positive, scientific indication for mixed vaccines in all mixed infections. We do not wish to infer that all bacteria found in a given infection must be injected with one puncture of the needle. Indeed, when treating acne, for instance, we have found that the best results are obtained by injecting the staphylococcus into one arm and the acne bacillus into the other at the same visit. One should not hope to cure a case of tuberculosis with a mixed infection by injecting tuberculin alone, nor can one expect to eradicate a cystitis due to the colon bacillus and the staphylococcus by injecting the colon bacillus or the staphylococcus alone. Again, we have found that, in a great number of cases, especially the old chronic or sub-acute arthritides, neither the primary focus nor the causative organism could be demonstrated. In these one must obviously resort to a mixed vaccine. Having had a large number of just such cases led us to the use of a mixed vaccine containing as its predominating organism the most likely cause of the infection. For example: In those cases where the primary focus, as nearly as could be determined from the clinical history, lay in the respiratory tract, we have had our

bacteriologist prepare a vaccine containing pneumococci, staphylococci, and streptococci.

In the case of gastro-intestinal origin, we have used the bacillus coli, staphylococci, and streptococci.

Where the primary infection was in the antral cavity or the various skin lesions, in fact, any lesion bordering on a low-grade pyogenic infection, we have had excellent results from the injection of a home-made pyocyaneus and staphylococcus vaccine. This may not seem particularly scientific,—it may even seem empiric,—but it has given us results where all other types failed, and is justified on account of the clinical results, waiting a more exact and scientific procedure.

Clinical Considerations. As you all know, sera, up to the present time, are said to be indicated only in the toxemias, and that vaccines are indicated in the bacteriemias.

In the last four years it has been our custom to give the anti-streptococci serum in all those cases of acute general streptococci infections, acute streptococci peritonitis, and in the extremely toxic cases of streptococcus infections of the extremities.

In a series of over 200 cases of this type each patient received from 10 to 80 cc. of the streptolytic serum, and with a fall of the temperature and a subsidence of symptoms in a majority of the cases. You will understand, of course, that the sera are discontinued as soon as the auto-vaccines are prepared.

Our experience with the sera in scarlet fever has been limited to a few cases, but even in these we noticed beneficial results and never any untoward after-effects. In a surgical clinic we rarely meet with diphtheria, but in the few cases we have treated the results have been most gratifying. We have, however, noted in a few cases the symptoms of anaphylaxis which were so fully discussed before this society two months ago.

The antitetanic serum is given in all cases of injury or gunshot wounds in which there is an open lacerated wound inflicted by machinery or implements which have been in contact with the dust or dirt. This is our routine practice, and has been used in a series of over 150 cases, and so proficient has been the prophylactic action of the serum that Dr. Murphy has not seen a case of tetanus originate in our hospital patients in seven years. The usual dose given is 1,500 units.

We give the serum therapeutically when occasion arises. I have had occasion to see in a distant city a case of tetanus in which the symptoms developed nineteen days after the primary infection. Repeated injections of the serum were given and the more violent symptoms subsided. The patient had no muscular twitching for ninety-six hours before his death.

Bacterial vaccines have been administered by us in all types and classes of cases such as are met in an extensive surgical practice.

Beginning at the lesions of the skin, we have treated cases of acne, furunculosis and carbunculosis, and infections of the lymphatic glands. Next we shall consider the lesions of the respiratory tract, as chronic rhinitis, asthma, hay-fever, bronchitis, empyema, and tuberculosis with mixed infection. Next chronic suppurations, including osteomyelitis and infected surgical wounds of all descriptions. Following this, chronic enteritis and kidney and bladder infections not associated with obstruction by foreign bodies. Then low-grade pyogenic or saprophytic infections, and last, but most extensive, has been our experience with vaccines in all types of acute and chronic joint infections.

Bacteriologically our cases have included almost every variety of bacteria with varying degrees of virulence. Most common among them we found the *Staphylococcus aureus* and *albus*, the *streptococcus*, *pneumococcus*, the *Bacillus coli*, and the *Bacillus pyocyaneus*.

Detailed Considerations. The principles underlying the successful treatment of acne vulgaris are:

1. The determination and isolation of the causative organisms.
2. The knowledge and experience necessary for the determination of the dosage and the interval between inoculations.
3. The general condition of patient and the degree of virulence of the infective organism.

In the series of 15 cases treated by us we found that the *Staphylococcus albus* was present in 90 per cent of the cases.

Theoretically, the acne bacillus should be present in every case. The difficulty of growing this bacillus is the principal obstacle to the successful treatment of acne vulgaris. This organism requires from five to ten days on the most suitable

culture media, one of which is the 1 per cent oleic acid agar.

Another reason for failure is the fact that the dosage of the acne bacillus vaccine has been much too large. In all these cases it is also necessary to watch and modify the coagulability of the blood. If this is too rapid, the patient should have large doses of sodium citrate; on the other hand, if the coagulability is too slow and the patients do not improve immediately, it is necessary to give a number of 10 grain doses of the calcium lactate.

We do not encourage this type of cases, but many of them came to us for some surgical lesions. Several of them had made "the rounds," and finally appealed to us for the vaccine treatment.

In two of our cases all the lesions subsided after three or four injections, and have not returned. Some of the cases improved so rapidly after the fifth or sixth injection. One patient was not improved at all.

The furuncles and carbuncles, of which we have treated 20 cases, have all made rapid and complete recovery. The autogenous vaccines should always be given if one wishes to obtain the best results. One of our cases, who had previously been treated with mixed stock vaccines over a period of seven months, responded immediately after three injections of autogenous vaccines. Eighty per cent of these cases showed the *Staphylococcus aureus*.

Glandular infections, not tubercular, are due to the *Staphylococcus aureus* and *albus*, occasionally combined with the pneumococcus. Twenty-five cases of this type treated with auto-vaccines showed rapid improvement, and the majority of them went right on to ultimate complete recovery.

We have had one case of chronic rhinitis in a doctor, the most prominent symptom of which was a very annoying sneezing, which was treated with a mixed vaccine which contained the streptococcus and pneumococcus. The sneezing very materially improved after the fourth or fifth injection.

We have treated six cases of chronic asthma in which we were able to demonstrate the pneumococcus combined in the other five. In one we noted an aggravation of the symptoms from ten to eighteen hours after the injection, but a

marked improvement after the third dose. The other cases, one of which was not improved materially, did not show the reaction as did the first case. Another case of asthma, treated at the hospital under our direction, showed no pathogenic bacteria in any of the bronchial sections that were obtainable. We advised the use of a mixed pneumo- and staphylococcus vaccine. Later the interne informed me the patient's condition was greatly improved and he has had no more attacks.

Last August we treated three cases of hay-fever with a mixed stock vaccine containing for the most part the streptococcus. Two of these cases did not find it necessary to change climate during the hay-fever season, as had been their custom for many years.

Much has been written in recent months on the use of vaccines in pertussis. Zahorsky has reported 40 cases treated with favorable results in some cases. In not a single case in which the vaccine was used did any secondary infectious process appear. His best results were obtained when the vaccine was given at the height of the disease.

Graham who reported 24 cases, believes that the course of the disease is shortened and improvement almost always continued after the injections were discontinued. He observed benefit in 17 cases. Ladd reported a series of cases. After the injections mothers stated that severity and number of paroxysms were diminished.

Four cases of purulent empyema with drainage were treated by us with auto-vaccines, resulting in a rapid diminution of the amount and odor of the discharge and ultimate permanent healing. Two patients had a green pus discharge, which delayed improvement for some weeks until a suitable autogenous vaccine of the *Bacillus pyocyaneus* could be prepared.

In tuberculosis with mixed infection we have made it a rule to use the vaccine, together with the tuberculin injections. The vaccines are given every four or five days, and the tuberculin once each week. Both injections should never be made on the same day, as that would interfere with the temperature reaction, which is the most important guide to the size of the tuberculin dosage.

Acute and chronic surgical infections of all types offer the largest field for vaccine therapy. Under this we include all cases which are pri-

marily septic, incised or gunshot wounds, and osteomyelitis not associated with sequestra and not containing large cavities, pelvic infections, suppurations, appendicitis cases, etc. In a series of over 50 cases of this type we used the autogenous vaccines in about 90 per cent and the mixed vaccines in about 10 per cent. These cases, second to the pyocyanus cases, give the most brilliant results. If the vaccines are properly made and the dosage and intervals properly graduated, this type should yield cures almost uniformly. The one reason for failure is the fact that the vaccines are not changed with sufficient frequency. A new vaccine should be made about every two weeks, to make sure that the organisms doing the most harm are incorporated in the vaccine. No culture can be transplanted more than two or three times without detrimental attenuation.

Another large field for biologic therapy is the kidney and bladder infections not associated with foreign-body obstruction or organic obstructions. The colon bacilli, staphylococci and streptococci, and often the pneumococci gain entrance to the urinary tract and cause marked frequency and often painful micturition. One of the most striking cases of this type came to the hospital late in October, 1911, suffering from frequent and painful urination, extending over a period of about ten months. After taking an accurate clinical history, it was found that this patient had suffered from dysentery of several weeks' duration, and that her trouble dated from that time and became progressively worse. Cystoscopic examination showed no pus coming from either ureter, and the absence of a neoplasm or foreign body in the bladder. The culture from the urine made the diagnosis of cystitis due to the *Bacilli coli* and staphylococci. The auto-vaccines were given about every five days, and the patient made a rapid and complete recovery and has remained permanently well.

Another case, Mr. D., came to the office on December 11, 1911, giving the history of a continued illness for four months, with repeated daily attacks of severe pain deep in the perineum, associated with chills and high temperature, frequent urination (every quarter to one hour), and large quantities of pus in the urine. Prostate gland not perceptibly diseased. Culture of the urine showed *Bacilli coli* and staphylococci. Vaccines were made and the patient improved rapidly for

several weeks, followed by a period of non-improvement for a few weeks. Another culture showed that all the staphylococci had disappeared, leaving a pure culture of *Bacillus coli*, from which a vaccine was made and injected in the usual way. This was in February, 1912. On April 1, 1912, Dr. Murphy made the following note: "The pains are all gone. Only one morning urination. The urine is absolutely normal." [Case has been permanently cured. July 2, 1913, patient reports himself perfectly well, with no evidence of return.]

Another patient, Mrs. G., suffering from a chronic cystitis, showed a bacillus not unlike the *Bacillus pyocyanus*. The stock pyocyanus vaccines were given at four-day intervals, and in a short time the pus-cells decreased and those that were present were greatly fragmented. This patient made a complete recovery, but had a recurrence from which she also recovered.

We have treated two cases of chronic enteritis, one of which was of tuberculin origin. This patient had from 10 to 20 bowel movements daily, most of them containing blood. The auto-vaccine was prepared, and after the first injection the blood ceased and the number of movements became less. The other case responded to none of the many vaccines given, and was later found to be a gas-bacillus infection.

We recommend the use of the prophylactic injections of the antityphoid vaccine in adults, especially in doctors, nurses and all persons liable to be exposed to the disease.

Three injections are given with an interval of 7-10 days between doses. The first dose contains 500 million bacteria and the second and third doses contain one billion bacteria each.

F. F. Russell, in the *Jour. A. M. A.*, presented statistics on the antityphoid vaccinations in children between the ages of 2-16 years.

The dosage is based on body weight rather than the age of the child. About 359 children have been vaccinated in various parts of the United States. No harmful effects were noted and not one of the children has contracted the disease, though some were vaccinated three years ago. In the absence of final information as to the duration of immunity, now children are revaccinated after about three years.

In the last three years we have devoted our best efforts to the vaccine treatment of acute and

chronic joint infections. This we have found the largest and at the same time the most difficult field of biologic therapy. The field is large, on account of the great number of cases with all types and varieties of joint infections that present themselves for treatment in Dr. Murphy's clinic. It is the most difficult type of cases from which to procure cultures for vaccines—first, on account of the large number of atria of infection; second, on account of the various types of organisms causing the arthritides; third, because some of the cases have their primary infection twenty or even thirty years before they present themselves for treatment; fourth, because it is often impossible to obtain a culture, even from the blood, which can be used in the preparation of an autogenous vaccine.

In our series of 90 cases of arthritis we have been able to distinguish three classes, as follows:

1. That type of deforming arthritis of gradual and insidious onset from which no organism can be obtained, either from the joints or from the blood-streams, nor from the secretions or excretions.

2. Those cases, mostly of the chronic variety, which had their origin in ancient infection of the mouth, pharynx, tonsils, respiratory tract, intestinal tract, from which we were unable to obtain any one specific organism at the time the patients came for treatment, but who yield to mixed vaccines.

3. Those patients with acute or chronic infections of the joints in which we are able to isolate a distinct organism or organisms which we believe to have been the cause of the trouble.

The first class is obviously the most difficult one to treat and yields the least satisfactory results. One such case, Mr. H., aged forty-nine years, came to the office September 20, 1912, on account of pain and stiffness in the shoulder-, hip-, and ankle-joints. The trouble began twenty-nine years ago, when patient was twenty years old. He began having a dull aching pain in the spine, which continued four years. The pain became much more severe, and invaded both knee-joints, both hips, and both shoulders. The spine began to curve forward. Patient had no chills, no fever, no sudden incapacity—just a gradual progressive involvement of all the joints. At the time of examination the spine was fixed from the tip of

the coccyx to the atlas. Repeated vaccines were made from the urine, but there was very little reaction, and therefore very little improvement. All kinds of vaccines have been given, but the result thus far obtained has been very unsatisfactory.

Another more favorable case, M. C., aged twenty-six years, came to the office on account of pain in the spine. His previous illnesses were negative, excepting an occasional coryza. When the patient was nineteen he began to have pain in the lumbar region of the spine, which was especially severe in the morning. One year later many vertebrae had become involved. No history of chills, no fever, no total incapacity at any time. We were unable to obtain any material for culture, and the question arose what to do for the patient. Working on the basis that his trouble was possibly due to a low-grade infection of some type, we concluded to give the patient injections of pyocyaneus vaccine. The first injection of 50,000,000 was given on November 14, 1911. November 21 the note on history reads: "Patient feeling much better; joints are not so painful." One injection was given each week, and December 19 the note on history was as follows: "Patient had headache and slight temperature after last injection. He feels like a new man. Even the motion in his neck has improved, and is almost painless." The injections of pyocyaneus vaccines were gradually increased, and three months after the beginning of treatment the patient was better than he had been for a whole year.

This case prompted us to use the pyocyaneus vaccine subsequently in many of the rheumatoid or deforming arthritis cases. The improvement in a majority has been slow, but progressive, and has given results which warrant its further trial.

The second type of joint cases in which we are not able to isolate any one specific organism is the one which has led us to the use of mixed vaccines. From the clinical history of a large majority of this variety of patients we find that they had a more acute onset, characterized by a chill, rise of temperature, pain and swelling of the joints, and a partial or total incapacity. At first one or several joints were involved, and later many or all the large joints of the body. Most of these cases, as they came to us, were of the chronic type, with the history of onset dating back many years. The majority had had originally some type of nose or throat infection, a

smaller number had infections of the genito-urinary tract, and then follow the alveolar infections, gastric or intestinal disturbances, the infections of the pulmonary tract, furunculosis, and other lesions of the skin in the order named. The mixed vaccines used in these cases contained the staphylococcus and streptococcus, the colon bacillus, and the pneumococcus, combined in some form or other. These are now made at our laboratory by our bacteriologists, and are combined in such a way as to suit the particular case, as nearly as possible, judging from its early clinical history. The pneumococci predominate in those cases where the ancient infection originated from the respiratory tract. Where the primary infection was in the gastro-intestinal tract or biliary passages, we used mixed colon bacillus vaccine.

One striking case of this class was a Mr. E., a farmer, who came to the hospital on account of painful and swollen knee-, wrist-, and ankle-joints. Originally, he had had some grip infection of the gastroenteric type. Cultures from the secreta and excreta, and even a culture made from the blood when the patient came for treatment, revealed no definite pathogenic organism which could be thought responsible for the original infection. Mixed stock vaccines were injected in rapidly increasing doses, resulting in severe local and general reactions. The temperature after one injection reached 103° F. After two months of vaccine treatment combined with extension and one injection of formalin and glycerin into each joint this patient, who had been unable to dress or feed himself for six months, returned home to his duties.

When a severe reaction follows the administration of the vaccine, as exemplified in the case just cited, we are positive that at least one of the bacteria incorporated in the mixture is the proper organism to be given. When no reaction follows, we are sure that very little benefit can be expected from their further use.

This line of procedure may be subject to criticism, but clinically we have had some splendid results in cases that were totally incapacitated and almost hopelessly deformed, and it shows that many of the patients may be taken from the "scrap heap" and restored to usefulness. The profession has been self satisfied in making a diagnosis of "rheumatoid arthritis," and then turn-

ing the poor victim over to the fates. It is time that some effort was made in a therapeutic line.

Finally, we come to the third class of cases that border on the ideal for vaccine therapy, namely, the multiple joint infections, from which we were able to demonstrate the offending organism. Unfortunately, these cases are in the minority in our clinic, as we get mostly "derelicts." From these we always make autogenous vaccines and can hope to get good results.

One such case, a male, aged sixty-one years, came to the office because of painful and swollen joints, with marked limitation of motion. His previous illnesses consisted mostly of painful and frequent urinations, for the relief of which he had had the prostate removed in 1907. In June, 1910, he began having dull, aching pains in both shoulder-joints, which continued until February, 1911, when the pain became much more severe, and the trouble then extended to the smaller joints of the feet. Next, the wrist- and finger-joints became involved. He came to the office on crutches and had difficulty in getting from the reception- to the examining-room. Examination of the urine showed 30 to 40 pus-cells to a 1/6 power microscopic field. Autogenous vaccines containing the *Staphylococcus aureus* were made and given, with rapidly increasing doses. In three months the patient left the hospital and resumed his work, walking without pain.

Another patient, Mrs. M., had for years been suffering from an extremely painful arthritis which had deformed both knee-joints and nearly all the joints of the upper extremities. The frequent and painful urinations from which this patient suffered and for which she had for years had bladder irrigations, led us to the possible cause of the trouble. The examination showed a pure culture of the *Bacillus pyocyaneus*. The vaccines, which are still being given, greatly improved the bladder condition after the second injection, and gave the patient increased joint symptoms the day following the injections. This patient is practically free from all pain in her joints, and should be able to resume her duties in her home.

Thus we have endeavored to tell you briefly of the earliest and original work which led to the use of the bacterial vaccines. We have attempted to define the various types of immunity and the practical application of the opsonic index. We

have mentioned briefly the indications for vaccines and sera, and gave a method for the preparation of bacterial vaccines. We recited those types of lesions in which the vaccines are applicable, including the lesions involving the respiratory, the gastro-enteric, and the urinary tracts, and the infections of the joints. We told you of our successes and cited our failures.

Conclusions.—By way of recapitulation, permit us to say:

1. That biologic therapy will in a short time, we believe, revolutionize the present-day treatment of many medical and surgical lesions, and particularly in the early acute infections.

2. That vaccines have failed in many instances to give the desired results because they were given in cases for which they were never intended.

3. That autogenous vaccines should always be given when it is possible to obtain them, but that there are cases in which there is a positive indication for mixed vaccines and occasional cases for stock vaccines.

4. That vaccines must not be expected to reconstruct tissues, organs, or joints that have been destroyed by known or unknown pathogenic organisms. That they are prophylactic against such destruction, and to be effective must be timely and intelligently administered.

5. That vaccines and sera, although now used as adjuncts in medical and surgical therapy, have done much to relieve suffering humanity, and have made producers of many who would otherwise have been burdens to society.

DISCUSSION

Dr. Charles L. Mix: I am sure that we are all very much indebted to Dr. Kreuscher for the presentation of the subject of vaccine therapy tonight. The subject matter has certainly been presented in a most complete and yet in an incomplete way—incomplete because you have not seen the cases cited. Seeing the cases that have been cured is the most important part of the whole procedure. The wonderful results which have occurred in the patients I have seen from time to time at Mercy Hospital is the thing that produces the greatest impression. To see a farmer who has been brought into the hospital unable to walk, walking around the halls after a few months' treatment with vaccine is certainly an extraordinary thing.

In Dr. Kreuscher's paper no mention was made of the injection of living bacteria into patients for the purpose of curing disease. He doubtless deliberately omitted all mention of this method of therapy, though

I think that it should be brought to mind this evening merely to be condemned. At the present time much is being printed in the public papers concerning the efficacy of such a method of treatment, which from the point of view of bacteriology is, to say the least, open to severe criticism. So far as we know at the present time it is possible to attenuate living germs by growing them in suitable culture-media, but as soon as they are restored to other media their virulence returns. Granting that it is possible to attenuate a germ outside of the human body, what likelihood is there when it is reinjected into a human patient that it will not at once regain its former virulence? In my opinion it is extremely likely to do so, because the virulence is determined not so much by the germ itself as by the medium in which it is grown.

Turning now to the subject matter of Dr. Kreuscher's paper, the production of immunity by vaccines, I have this to say: The production of such immunity is certainly taking place in patients as the result of natural processes. We are daily watching the progressive immunization of our patients, oftentimes without being aware of the fact. Tuberculosis is a disease in which progressive immunization is excellently well exemplified. An individual suffering with this malady ordinarily has a temperature and a rapid pulse. The fever and rapid pulse are lowered from time to time after a period of rest, or, putting it in another way, after the patient has spent a whole night in bed he has a temperature in the morning which is either normal or subnormal, and his pulse-rate is correspondingly low. At night, after a day of activity, his temperature is above normal and his pulse-rate has risen. Why? Because during the day the patient's activities, his bodily motions, his increased vascular pressure, and lymphatic flow have led to an introduction into his body of the toxins of a large number of dead germs. From these toxins he gets his daily reaction, consisting of increased temperature and pulse-rate. Now, it is a noteworthy fact that if such a tuberculous individual is put absolutely at rest in bed for a few days to a few weeks his temperature will fall, frequently to normal. Just so soon as he gets up and moves about and exercises, his temperature will rise above normal. By his activities he has produced the same reaction which we are able to produce by our method of vaccine therapy.

Thus nature cures the case. The activity of the patient inoculates him with an unknown dose of the vaccine. He is inoculated, moreover, at uncertain and very likely too frequent intervals. Such auto-vaccination ought not to be permitted. Nature does many things well, and cures very many infectious diseases; but nature ought to be assisted whenever it is in the power of man to do so. Auto-vaccination ought, therefore, to be abolished, and in its stead the physician should step in and administer vaccines when they are necessary, and only when they are

necessary. Thus the physician can take charge of the matter of immunization, controlling it absolutely. But in order to control it effectually he must be able to control the patient's activities as well as his vaccines, which means he must have the patient under his control in a hospital. A patient up and about does not improve so much as a patient at rest in bed.

As to the various kinds of vaccines generally made use of, the best results have been obtained, in my experience, in the use of the vaccines for tubercular, gonorrheal, staphylococci, and *Bacillus coli* infections. In the streptococci infections, from my own point of view, I do not think that the results have been very extraordinary, yet there are cases in which the streptococci vaccines have assuredly given excellent results. Though Dr. Kreuscher did not mention the case in his report, I believe that he saved a scarlet-fever patient by the use of the anti-streptococcic serum.

Another matter of great practical importance is that of the mixed infections. I have long since been accustomed to look upon the body as a piece of soil. Just as in a garden left to itself various sorts of weeds grow up and live rather amicably together, some perhaps being of positive assistance to the others, so also in our body germs live amicably together and at times in a state of symbiosis. Instances of this are so common as to require no mention, but reference may be made at least to the mixed infections in tuberculosis. Another element comes into play in the matter of these mixed infections, and that is the variations in the virulence among the different strains of the same species of bacterium. The idea, then, of combating these germs growing together in the body by a vaccine made from a single one of them does not seem to be fundamentally sound. Most assuredly a vaccine made from several strains of the same species ought to be more efficient than a vaccine made from a single germ; a vaccine made from two or three germs that are commonly associated in an individual for the same reason ought to be more potent than a vaccine made from a single one. Therefore, I believe in the so-called mixed vaccine therapy, the more so because many of these vaccines have done remarkably well at Mercy Hospital.

As to the type of case which was last mentioned by Dr. Kreuscher, the joint disturbances, a very careful history will often reward the examiner by giving to him the exact diagnosis, as Dr. Murphy may later on say. Bacteria behave in rather a characteristic manner when they get into the human organisms, and often betray their identity by their actions. This statement is explained by an illustration; for example, after an infection of the body a secondary focus may appear in a joint a definite period of time after the primary one. From the date of the original infection and the date of the appearance of the metastasis in the joint, the physician may be able to name the germ. Recall, for example, typhoid fever—when do the

joint disturbances begin? In the third or fourth week. When do the joint disturbances after the period of acute infection in gonorrhea begin? In our experience the joint becomes infected only between the eighteenth and the twenty-second day. When do the joints become infected in the streptococcic infections? In our experience the second or third. Each of the germs more commonly at fault in the joint infections has a definite time for infecting the joint after the primary infection. Again I repeat that if it is possible to obtain from the patient an exact history, it is oftentimes possible to come to a conclusion as to the exact germ which caused the original infection.

When a patient comes to consult the physician for a joint disturbance, it is usually one or more years after the original infection. Blood cultures and cultures made from the joint at this time are usually negative. A careful history may enable you to make a shrewd guess as to the organism which caused the trouble. Is there any way to find out the truth or the falseness of your guess? We have found an excellent means. Whenever the right vaccine is selected, it produces a characteristic reaction. When Koch's tuberculin first came into use it was intended to be a therapeutic agent, but by reason of the fact that it produces a characteristic response in a tuberculosis patient it became a means for diagnosis. Precisely the same thing was true of the gonorrheal vaccine. It was early noted that in cases of gonorrheal joints the gonorrheal vaccine produced a characteristic local reaction. If, therefore, you have made a correct estimate as to the identity of the germ at fault, you may confidently expect a local and constitutional reaction on the injection of a vaccine prepared for that germ. If no specific local and constitutional reaction is obtained, then it is not at all unlikely that the guess has been wrong.

These, then, are the points which I would like to emphasize: that the injection of living germs is contrary to good sense; that auto-vaccination is going on constantly in nature, but that it is time for it to be superseded by the intervention of the physician and the exact regulation of the amount of vaccine introduced; that mixed vaccine therapy is in accordance with common sense; that in chronic joint infections a careful history of the case will often enable the physician to make a correct diagnosis as to the germ at fault, and that such a diagnosis can be tested by the local and constitutional reactions obtained by the injections of a vaccine made from that particular germ.

Dr. T. L. Dagg: I am engaged only in the manufacturing of vaccines, but still there are different points which have come to me in my experience in handling the orders which come to me from physicians and the reports which they make to me of their use of the vaccines which I have made. I believe that the vaccines should be made in much higher concentration than was formerly thought desirable.

We began with the staphylococcus, say, at 100,000,000 and led up to 500,000,000, and I now have orders calling for 1,000,000,000 and 1,500,000,000 to the cc. Our physicians are using doses of a higher concentration and reporting good results where before they had failures.

This is also true of the colon type. We are making it as high as 800,000,000. They begin with the small dose and gradually lead up to the immunizing dose.

My experience with the pyocyanous in ear conditions has been rather unfavorable (speaking of the reports received back on the vaccines I have made for that purpose). Staphylococcic in ear discharges have done better. The pyocyanous, however, have done better than the pneumococcic, which have been very poor.

The most marked results which I have had have been in the colon in cases of cystitis, but in these again, we have used a high concentration beginning with the low dosage and gradually leading up to the high point.

The period of giving the vaccine is a factor. Used oftener than every four or five days it is a menace to the patient and I have seen greatly exaggerated symptoms and conditions made markedly worse from too frequent use. In my experience the period of five to seven days is the best for the use of these vaccines.

There is another important point: the length of time in which an autovaccine seems to be efficient. It came about in the treatment of acne cases. Some acne cases were slow in responding and we thought it might be due to the low concentration, but I believe now the efficiency is exhausted, say, after 90 days, because following an autogenous vaccine new made the symptoms will promptly disappear, and that makes me think its efficiency-period has a limit.

Dr. Joseph L. Miller: Dr. Kreuscher has reported a large number of cases, and especially a large variety of disease conditions treated with vaccines. It seems to me of all the cases mentioned, those patients with chronic arthritis are most suitable for the study of any therapeutic agent, because we are all familiar with their course. The patient grows progressively worse under all forms of treatment instituted in the past and the fact that they can be benefited by vaccine is very convincing that in these particular cases we have, in vaccine therapy, an agent of great value.

In more acute infections, where spontaneous recovery may take place in any event, it is difficult to determine the efficiency of any therapeutic agent.

We must look upon vaccine therapy at the present time as being in its initial stage and not take it up with too much enthusiasm in all classes of cases. We must always take into consideration what takes place in the patient not treated and have some control cases.

Dr. Kreuscher's statement in regard to autogenous

vaccine is a very good one. At present too much stock vaccine is used and often where the stock vaccine is used it simply means that the man using it does not know the nature of the infection, for while a stock vaccine may be used where the infection is known, they are used many times with the wrong microorganism.

My own experience is limited to the use of vaccine on chronic joint, and colon infections of the kidney. In joint cases they have been made from streptococci taken from the tonsil.

In colon infections the results have been very satisfactory in those cases which formerly were most difficult to treat. I have not treated asthma but in cases coming under my observation after treatment with vaccines there seems to be some temporary improvement, but I have never seen any permanent results after the vaccine treatment of asthma.

Dr. L. Hektoen: Tests in our laboratory show that some of the antistreptococcus serums now on the market do contain antibodies, especially opsonins, that combat streptococcic infection.

In cases of scarlet fever with violent streptococcus infection such serum, injected intramuscularly in large doses, may give what seems like brilliant results. We should bear in mind, however, what Dr. Miller has said about spontaneous recovery. I remember a case of severe streptococcic infection in scarlet fever in which the use of the serum was suggested. Dr. Herrick said "let us wait until the morning." We did, and in the morning the patient was much, much better and recovered promptly. The physician must always be on his guard in interpreting results. He must not let the "post hoc ergo propter hoc" fallacy influence his conclusions as to therapeutic results.

I was greatly surprised that Dr. Kreuscher in reading the paper did not mention gonococcal arthritis in connection with his summary of arthritic infections because it is my impression that this is one of the most important forms of chronic arthritis, and frequently amenable to specific vaccine.

As to mixed vaccines, it seems to me that here it is particularly in order to proceed thoughtfully and carefully. It may be perfectly proper to use mixed vaccines, provided we are sure we have true mixed infection to deal with, but as emphasized in the paper it is best to proceed slowly so as not to fall into routine methods but study every case carefully and always establish so far as possible an accurate etiologic diagnosis.

There is one thing I wish to emphasize particularly, and that is that the physician himself should make, or have made under his immediate directions, the vaccines when called on to use them. He knows the patient and the bacteria involved; consequently he can judge of the vaccines needed better than some one in Philadelphia, Detroit, or Kansas City. It is not at all necessary as has been pointed out, to give the vaccines *mixed*. They may be given separately,

one in one arm and another in the other, and in that way the doses can be regulated much better than in the ready-mixed vaccines which should be discarded.

Dr. Murphy (closing discussion): This is a topic that we have been very much interested in for a long period of time. It is a topic that is finally going to take hold of us and is going to rob us of some of our surgical practice. It is a topic that, I believe, admits of much hope for the future. It is a topic, as we now look on it, in its very initial stage, acting on information that we are getting from clinical observations, that is moving us to feel cautiously each succeeding step in its advancement. It is with the hope of bringing out discussion and getting the experience of other men and gathering new light from their experiences that we present this clinical report tonight. It is not a paper. It is not in that sense that it is presented. It is just stating the facts to you as they come to us from clinical observation, and these facts we hope will lead us in time to do better work and to obtain better results than we are obtaining.

There are a number of things that we know little or nothing about concerning metastatic infections. There are a few points in which we see some rays of light in metastatic infections. First, the time at which metastases take place is just the opposite of the time at which they should take place. What do I mean? The metastases never take place when the infection is at its height of severity, but they take place in the early days of recrudescence, except in streptococcic infections. If one has an inoculation with a streptococcic infection, one can have the cocci transmitted through the blood and lymphatics, and taken out of the blood in the local metastatic point within a few hours after their admission. If we have admitted into the skin or beneath the skin a staphylococcus infection, it may not show a metastatic focus for days and weeks. All of us, men with gray hair or no hair, recall the time when we, as young men, saw pyemia in its rampant form. When did the patients get the pyemic chill? Not the day they got the infection, not two days, but eight days to three weeks after the infection; that is the time they have the pyemic chills except in the streptococcic variety. Here again with typhoid fever we have the typhoid bacilli in the blood within a few days after the infection; when do we get the metastases? Barely ever before the end of the third week. Why? As the bacilli are floating around in the blood so freely all the time, why is it that when they commence to diminish and disappear that we get the focal metastases? Again, the older men who lived in the days of virulent diphtheria, when you had six or eight deaths in a family in one epidemic, remember that when these patients died from mycoses (cardiac and cerebral) they did not die in the early days of the diphtheria. They did not die when the microorganisms were most prevalent. When did they die? Not when the gangrenous patch was on

the throat, but at the time it was thrown off or shortly thereafter. That is when they died. That is when the myocarditis manifested itself; that is when the paralyzes appeared: when the diphtheric membrane fell off and you said, "I will make my last visit tonight. My patient is cured." You were called before midnight on account of the rapid pulse, the acute delirium, or the "vivaciousness," the cyanosis, etc. The patient was dying and died before daylight. These conditions we did not then understand, but they are now being cleared up as the knowledge of bacteriology, metastases, and immunity is developing.

We know little or nothing of the etiology and modus operandi of metastases. We do know, however, the relative time at which they take place in the various anthritides. We know as precisely as we know when to expect the eruption in measles, scarlet fever and typhoid, when to expect the arthritis after knowing the time of the primary distal infection. We know from the character and description of the primary infection what the probable cause of the metastatic infection was. When a careful analysis of these cases is made, one can invariably find out just where the primary infection was located, what the metastatic infection was, and then, from the etiology, form an idea of how destructive the pathologic lesion is going to be to that point. Since 1904 we have been endeavoring to impress on the profession the etiologic relationship between the nasal, pharyngeal, cholecystic, dysenteric, alveolar, tonsillar, genito-urinary, furuncular, antrum, mastoid diseases, and the acute and subacute arthritides-so-called, rheumatism, as phases of these infections. More recently the profession is accepting inflammation of the tonsil as an etiologic factor in arthritis; it is not at all as frequently a causal factor as some of the other infections mentioned above. We have named these in order of frequency in which they appear to metastasize as arthritides. The connection between these inflammatory infections and the joint lesion is as closely related as the fever, sore throat, etc., of scarlet fever is to rash, and is as easily recognized, when one learns of the "regular" period of time that must elapse between the primary infection and the joint manifestation of it, namely, the "period of metastasis." We have failed to connect the primary infection with the secondary joint manifestation for so many centuries, because of the length of time that must necessarily elapse between the two in the disease cycle.

A patient has a grip infection, which is one of the more common causes, and when the grip commences to get better, he suffers from "rheumatism" of his hip or elbow. He will tell you he has rheumatism, something has happened that on the tenth, eleventh or twelfth day gave him a chill (exposure to cold, wet feet, draft, overeating, etc.). You know, from the clinical fact that his rheumatism began with a chill, that that man in all probability is going to have one or more joints ankylosed as a result of that infec-

tion. That is now new. Dear old Dr. Hollister, who gave me the only lecture on pathology I ever had when a student, described rheumatism in that lecture, described the differential diagnosis between pyemia and rheumatism. He said pyemia in joint infections began with a chill always; rheumatism did not. That is exactly true of the metastatic arthritides today. When they begin with a chill they result in an ankylosis and a destruction of one or more of the joints. That is a clinical fact. When they do not begin with a chill they rarely result in ankylosis. Take, for instance, the infection we know the most about, in connection with the Neisserian types of arthritides. When do they metastasize? In our analysis of them 96 per cent of the cases metastasize between the eighteenth and twenty-second day. You ask the individual patient what happened. He will say, "I was exposed to the rain"; "I stood in an open door"; "I stood in the front of the street-car." He did something, and did it between the eighteenth and twenty-second day. How many times do patients do one or all of these things preceding the eighteenth or following the twenty-second day without gonorrheal metastases! That merely shows that there is a time in the cycle of these infective lesions when they are prone to metastasize under favorable conditions; that there is a definite time for the appearance of the metastases, as well as a definite place for their localization. Every one of the infections has its own definite time.

The next important item is that of treatment. In the treatment of these lesions we believe that probably the best results must and will come in the future and do come to us now from giving vaccines in the early inflammatory stages of the disease, together with the mechanical aids at our command and the chemic neutralization of the local infection. In the chronic arthritides of many types, and in the acute arthritides, the laws of vaccine treatment correspond in every essential to the primary laws laid down by Pasteur on fermentation, and you cannot do good vaccine work unless you know the essential principles of his individual work.

THE ETIOLOGY OF HYPERTROPHIC RHINITIS.*

J. A. PRATT, M. D.

AURORA, ILL.

In many books examined the etiology of hypertrophic rhinitis was given the same in nearly all. The exceptions are taken from what is considered one of our best works. In Ballenger's second edition, under the etiology of hypertrophic rhinitis, he states that: "the causes of hypertrophic rhinitis are essentially those given under

turgescence rhinitis. When there is an anterior deviation of the septum there is a negative air pressure within the nasal chambers with each inspiratory effort. The hyperemia resulting therefrom leads to an over-nutrition of the mucous membrane, especially of the 'swell bodies.' The contact of the deviated septum with the mucosa of the inferior turbinate irritates it and thus still further excites the hypertrophic process. The altered secretions add to the irritation, and still further increase the hypertrophy of the mucous membrane."

We take exceptions to two statements in the above, first, that the increased negative pressure causes hypertrophy, because we find that the hypertrophied turbinate is on the concave side of the deviation where the breathing space is the greater, and where the negative pressure would be the less, if there were a negative pressure, which we do not believe. Second, that the contact of the deviated septum with the turbinate causes it to still further hypertrophy, because as a matter of fact the turbinate that is pressed by a portion of a deviated septum shrinks and atrophies.

When a person cannot obtain enough air through the nasal passage, he becomes a partial mouth breather, and this fact, in our mind, precludes the possibility of a negative pressure in the nasal chamber. This of course is in unconscious breathing, which is the normal state.

We believe that localized hypertrophy of nasal tissue, when the septum is normal, is caused by the irritation of the abnormal secretions, as in sinus diseases, etc. If the sinus condition could be cured without destroying the hypertrophic tissue, this tissue would tend to return to the normal, if it is a simple hypertrophy.

We believe that when we have a normal septum, with no sinus trouble present, and there is a turgescence that closes the nasal chamber, or we have an alternating stenoses, we should look to the irritating condition of the blood, due to auto-intoxication from whatever cause. If this blood supply to the part continues, there will be hypertrophic tissue formed.

In years passed when we had hypertrophy of the turbinate opposite the concavity of a deviated septum, we removed part or all of the turbinate, or gave it linear cauterizations. In the cases where we used the cautery with seemingly perfect result, we found when the patient returned

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after some months, that the condition was nearly as bad as ever. It was not until we began the corrective submucous operations on the septum, that we discovered the condition improved instead of becoming worse as time passed. All of us have seen this, not only in our own cases, but in those operated upon by others. For over a year now, we have not operated upon our simple hypertrophied turbinates, but corrected the septum, and where we left a turbinate lying against the replaced septum, the turbinate would decrease in size until the space was nearly normal; while the atrophied turbinate on the convex side of the septum would increase in size.

Two functions of the nasal cavity are to warm and moisten the air as it passes to the lungs. It is with these two functions that we have to deal in discussing the etiology of hypertrophic rhinitis. In a normal nasal cavity the air is equally distributed on each side of the septum, and there is a normal space between the turbinates, and the turbinates and the septum, so in complete turgescence the nasal cavity can be entirely closed. In the physiologic action of the normal nasal cavity, there is just turgescence enough to properly heat and moisten the air, as it passes to the lungs. The stimulus that acts upon the nerves to regulate the amount of blood to these parts, is the amount of air passing through a given side of the nasal cavity. If this amount is increased there is a greater turgescence, if less, the turgescence is decreased. As the amount of blood to a part determines whether it shall hypertrophy or atrophy, so in this instance we have hypertrophy or atrophy according to the increase or decrease of the amount of air passing through the nasal cavity.

When we have a deviation of the septum, as from an injury, the bent septum causes an enlarged nasal cavity on the concave side, and a smaller nasal cavity on the convex side. Following the natural physiologic impulse, there is an extreme turgescence on the concave side to properly heat and moisten the extra volume of air that is passing through. As this cavity remains large, the chronic dilatation of the venous plexuses causes their walls to thin to the point where the contractile tissue cannot empty the plexuses, and we have the soft baggy condition of the turbinate that undoubtedly precedes the hypertrophic condition. On the convex side of

the septum the reverse takes place, and we have atrophy. This explains the conditions as we find them.

If the above etiology is true, it behooves us to be conservative with our turbinates, and try to restore the septum to its proper position.

DISCUSSION.

Dr. William L. Ballenger of Chicago: The doctor, I think, is a little bit mistaken in the fact that we do not have pressure in the more open nostril. As a matter of fact, when one side is partially closed the entire amount of air needed for respiration purposes must pass largely through one nostril, and there is just as much pressure on one side as on the other. There could not be more pressure in the partially closed side than on the other; both cavities are freely communicable. So that there is not an increased negative pressure on the closed side and in excess of that which is on the open side. The pressure is just the same on the two sides.

I think the doctor is entirely right in adding this feature that the physiologic response from the current of air going through the more open side is the essential physiologic factor in the production of hypertrophic rhinitis, and I am very glad to hear him bring out that point. We must always differentiate between turgescence and hyperplasia. Dr. Kenyon of Chicago has defined hypertrophy thus: He says that if you will put ten pigs in a pen and come back in a hundred days and find one hundred pigs in that pen, that is hyperplasia. If you put ten pigs in a pen and in one hundred days there are still ten, only larger, that is hypertrophy.

The hyperplasia is due to a low grade, long-continued irritation. It is not due to irritation exceeding that which produces increased physiologic activity.

I have an idea in relation to what has been quoted from my text-book and what the doctor has said, that another factor enters into the etiology of hypertrophy of the inferior turbinate, and that is oftentimes there is sinus disease in the ethmoid region—that is, the ethmoidal sinusitis—and with the discharge of secretions from above, going downward, there is produced more or less stimulation, not amounting to an actual irritation, but an increased physical activity in the inferior turbinate tissue, which might result in also bringing about a hypertrophy of the mucous membrane, but in general we must think of hypertrophy as due simply to an increased nutrition to the part. Partial obstruction to the nose has been long recognized as the chief etiologic factor in hypertrophic rhinitis as well as in turgescence rhinitis. Ordinarily the latter is only a forerunner of hypertrophic rhinitis.

Dr. G. H. Mundt of Chicago: I may be wrong, but it seems to me that there must be a difference in the atmospheric pressure on the two sides of the septum. It appeals to me that with two cavities

of unequal size, probably from a deviation of the septum, in which the opening is the same anteriorly and posteriorly, the same amount of air can enter both sides, but it seems to me that there must be less pressure on the side of the concavity.

It has been my belief for some time that the decreased atmospheric pressure on the side of the concavity causes an engorgement of the turbinal body with an exudation of serum into the turbinal tissue, giving the intumescent form of rhinitis; and then, because of the increased nutrition, the cells composing the turbinal wax fat and we have the hypertrophic rhinitis; the process continues and the cells eventually, because of the increased nutrition, are increased in number and this is hyperplasia. This view is supported by the fact that clinically there is usually an enlargement (usually intumescence) of the turbinal on the side of the concavity.

Dr. Pratt (closing the discussion): I think that what Dr. Ballenger said agrees with what I announced here. In reference to what he calls hyperplasia, of course, we have hypertrophy and enlargement of the turbinate. We naturally have enlargement of the elements which make for hypertrophy. But I consider hyperplasia exists when we have enlargements on the ends of the turbinates, anterior and posterior, caused by the downward sinus secretions. It is a local irritation. What we call hypertrophy of the turbinate is generally due to enlargement of all of the turbinal elements on the concave side of the nasal septum.

I would like to cite one case, which may answer some of the points brought up. February first I did a submucous section on a gentleman who had a pretty complete deviation. The ridge was pressed right up to the lower turbinate on the left side and a very large lower turbinate on the right side, so much so that when the septum was straightened up the turbinates on the right side, both upper and lower, touched and lay right against the septum. It practically occluded that side for nearly two weeks. At the end of that time the tissues began to contract and he could breathe freely through the side that was occluded, and there was no part touching. While the atrophied part on the other side had not enlarged, the membrane which previously was pale, was very red, and showed that it was working in a physiologic way. I have noticed this condition in a good many of my cases, and that was what brought this theory to my mind. This demonstrates to my mind that the cause is simply a stimulation due to the over-amount of air passing through the enlarged cavity.

Dr. Ballenger: What is your impression about the air pressure on the two sides?

Dr. Pratt: I cannot see how there would be much difference. Breathing does not pull the air in with a strong suction. Normal breathing (fifteen or sixteen times a minutes) simply elevates the chest. Air goes in. If not enough air goes through the nose he opens his mouth and breathes through it. When

a man is running I can conceive how there would be slight negative pressure, but not enough to cause the influx of blood to bring on hypertrophy. In normal breathing if enough air cannot go through the nose, the opening of the patient's mouth precludes any chance of negative pressure.

VENTILATION RATHER THAN DRAINAGE ESSENTIAL FOR THE CURE OF SINUS DISEASE, WITH SPECIAL NOTES ON THE ANTRUM OF HIGHMORE.*

L. OSTROM, M. D.,
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Probably Pynchon was the first to lay stress on the value of ventilation in nasal diseases, especially in what he calls the attic, but he did not place it above, or even of as great value as drainage. While talking to Ballenger several years ago about my method of operating in the nose, he said that we must soon change our ideas about the nose, and obtain ventilation rather than drainage. Since then the great advance made in the study of non-suppurative sinusitis in which the question of drainage is not an issue, the absolute value of ventilation of every sinus is definitely established.

I have seen very little change, if any, in the treatment of antrum cases in our larger clinics during the last ten years. What I have seen is usually as follows: Removal of a part of the inferior turbinate. A hole is made in the inferior meatus into the antrum. Packed with gauze. Indefinite period of irrigation, with all kinds of antiseptics and astringents. This is the same in New York, Philadelphia, Chicago, etc. It has not been my luck to see any case which has been first subjected to exenteration of the ethmoids or the straightening of the septum in any of the clinical cases I have had an opportunity to examine.

Last summer while visiting Dr. T. J. Harris at the New York Post Graduate Hospital, a typical case appeared that had had a number of antrum operations. The opening in the inferior meatus, which had been reopened only a short time before, was again almost closed. Dr. Harris then called my attention to the case and said that this case demonstrated the impossibility of using my

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913, Eye, Ear, Nose and Throat Section.

antrum punch. I was just about to tell him that it was an ideal case to demonstrate its use, when he asked me to operate on the case with my instrument, saying that it had caused him a great deal of trouble because he could not use it, especially not in this case. When I showed Dr. Harris and the visiting doctors how easy and quick my instrument worked, and what a large aperture was produced way forward to the anterior angle of the antrum, and way back almost to the posterior wall, he asked me to describe the technique in detail at an early date. It is due to Dr. Harris' suggestion that I present this subject at this time.

In every case, unless the middle turbinate had already been removed (and, by the way, in nearly every case there is very little normal tissue left on the middle turbinate), at least the anterior

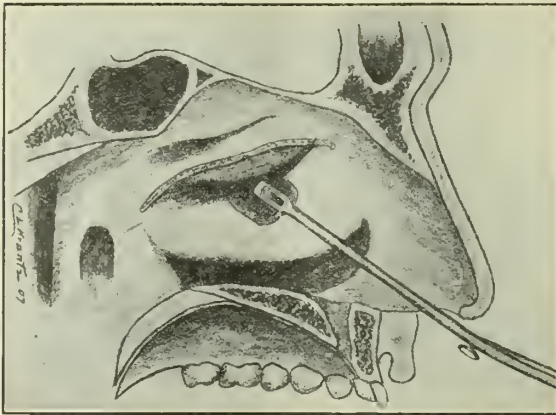


Fig. 1. Method Showing the Enlarging of the Ostium Maxillare.

$\frac{1}{2}$ or $\frac{2}{3}$ was removed. I always try to remove enough of the middle turbinate so that what remains is at least $\frac{1}{4}$ inch behind the hiatus semilunaris, so that it can't in any way block any of the apertures. If the septum was deflected it was straightened, usually by submucous resection, and, strange to say, I have had no infection or delayed healing in submucous resection in these cases any more than if the case had been a clean case, a fact which I attribute to the omission of packing. Any or all of these preliminary operations may be done at the same time as the antrum operation.

Technique. With a probe the natural aperture into the antrum is found, the distance from the tip of the nose measured and located. Sometimes the hole is so small or buried in the hiatus semilunaris that a probe can't penetrate, espe-

cially in the thickened ozenic cases. The reverse antrum forceps is then introduced closed with the blade down, as far back as the measurement with eye the blade is opened and turned outwards into the hiatus semilunaris, to the point leading to the probe indicates. Under direct view of the the foramen of the antrum. By opening the handles of the forceps, the blade points almost directly outwards, and by firm pressure it easily penetrates into the antrum. Hook the blade of the forceps into the antrum and pull forwards hard, close the handle, and a piece of the uncinate process, as big as the blade is removed. After the first piece is removed it is easy to reinsert the blade of the forceps, and by cutting up and down, the antral wall may be removed as far forward as the anterior angle. At this stage I resort to Weir's or Prince's turbinate forceps, and insert one blade into the antrum, through the aperture made by my forceps, and remove the posterior portion of the antrum wall as far back as necessary. If you go too far back there will be severe bleeding, demanding packing for its control, and if you go too far forward the lachrymal canal may be injured, but it is not necessary to go so far. The edges are made smooth and the operation is over. It should not take more than five minutes for the whole operation.

The aperture obtained is about 1 inch long, and $\frac{1}{2}$ inch wide. The technique for the inferior meatus is essentially the same except that the antrum wall must be punctured by some form of trocar, in case the bone is thick. I have entirely abandoned the inferior meatal route in favor of the middle meatus, because my results have been more satisfactory. No packing is used after the operation. As soon as the aperture is of fair size I usually insert a large canula and wash out the fetid pus so that the breath of the patient will not be so offensive.

On the third day, if there is any odor to the discharge, I again wash it clean, and by tipping the head all the water is emptied and the cavity left dry. In about four to six days this is again repeated. Later, about two or three weeks apart, the cavity is again washed.

I do not give the patient anything to use as a nasal spray or douche, unless the odor becomes offensive and the dried discharge forms large scabs. In such case I instruct the patient to fill a bowl with warm water, to which may be added

Seiler's tablets, or baking soda and salt. He is told to bend the head forward, way down, so that the nose points straight down to the floor. The nose is put into the bowl and the water is drawn up into the nostril until he feels it enter the antrum. The head is then tipped so that the solution will run out. This is repeated until the nose is clear. The patient is particularly warned not to draw the water back into the throat—only half way up in the nose.

With little exception this is the routine of my treatment, and, whether it is good luck, coincidence, or something else, I (and my patients) are

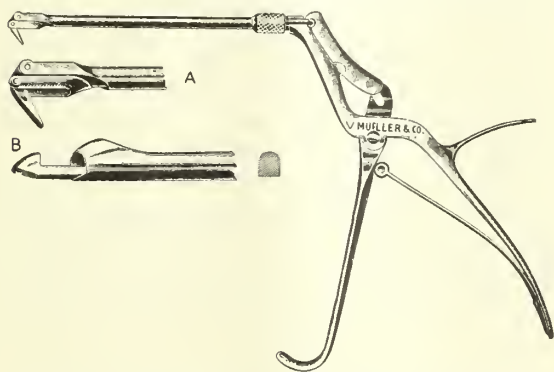


Fig. 2. Author's Improved Antrum Forceps.

satisfied with the results, and so far all my patients have gotten well.

Subsequent treatment is just as easy as after any other method.

The objection to the inferior meatal route is that in past years I had a number of patients who had permanent holes, but the antrum would fill from within, the mucus from the nose would gather on the floor, and for hours at a time the aperture would be closed by this mucus, which oftentimes dried and formed a hard scab which prevented ventilation.

The inspired cold air seems to produce more sensation when it enters the antrum below the inferior turbinate than when it enters from above. At any rate I have not yet had any patient complain of any irritation from the air, whatever, as they used to do.

In the Cooper (alveolar) method, drainage by means of a tube fitted into the tooth socket seldom if ever cured a chronic case.

In the Kuster (labio-lingival) operation, drainage is ideal, but I never saw a case get well, although the aperture was big enough to insert the finger, until an opening was made into the nose

and the labio-lingival opening closed. The same is true when necrosis has produced a perforation through the palate directly into the mouth. Of course the Cooper and Kuster operations are, or ought to be obsolete, but they were ideal for drainage. They also prove the small value of drainage alone.

An analogy exists in the ear in chronic purulent otitis media, which frequently get well with better results without a radical mastoid operation, if the discharge can be kept out and the ear kept dry. The caries ultimately comes to an end, as it does in the nose, and the ear heals up, in proof of which we have the thousands of cases of residual otitis media, which discharged for years and years, in which the caries finally came to an end and the ear got well. Function of course may not be re-established, but it certainly is just as good as that obtained following a radical mastoid, which by the way, do not always get much better after, than they were before, the operation, as far as the discharge is concerned. It has been my observation that the ear gets well just as soon as the swollen mucous membrane becomes normal, and the air again can pass into the mastoid antrum and the eustachian tube.

If the ethnoids are polypoid, unless every cell is opened and ventilated, polypi will continue to form and close up the nose. Ballenger's late work in x-ray of the sinuses demonstrates the unsuspected presence of many hidden pockets of pus, etc., which must be emptied and air substituted before the patient is cured.

Any other method of operating which obtains the same results is of course just as good as the one I describe, but I know of none that is as simple and as quick.

In conclusion I maintain that appropriate surgical work must be resorted to by whatever method one may prefer for all the sinuses, in order to obtain a cure. But a cure is not obtained until every sinus is open to the air current passing in and out, through the nose, and ventilation thereby obtained.

ABSTRACT OF DISCUSSION

Dr. Joseph C. Beck, Chicago: Mr. Chairman and Gentlemen: I am very much surprised at some of the statements made. One, for instance, that all cases are cured without any reference whatever to the pathologic condition that existed in these sinuses. I think if the doctor will investigate he will find that there are cases that it is impossible to cure by

a dozen openings, high up or low down. I have made examinations of the lining membranes and the bone leading into antrum, and find that there are changes which it is impossible to get rid of by any kind of an opening.

I think that the opening described by the essayist is a move toward progress in establishing ventilation.

Dr. William L. Ballenger, Chicago: I have been very much interested in Dr. Ostrom's presentation, and especially inasmuch as he has emphasized the value of ventilation rather than drainage. And yet I can conceive that in many cases this would cure the disease. I believe that ventilation is of tremendous importance in these cases, but, as Dr. Beck has pointed out, of course it could not cure cases with sequestra. Those sequestra must be removed. But I have not had the difficulty of the openings in the inferior meatus closing which the Doctor intimates would very often happen. By my modification of the Canfield operation you not only get ventilation, but drainage as well, and it seems to me that the ideal operation should include both drainage and ventilation, and should not be limited to simply one or the other. I have done a number of these operations and have, I think, had universal success. Hereafter, in the worst type of case that comes to me, I shall not only open in the inferior meatus by the nasal route, but I shall also open above the inferior turbinated body, and thus establish better ventilation perhaps than can be gotten through the inferior meatus.

Dr. A. H. Andrews, Chicago: I hardly agree with the doctor on some of the points which he makes, while I fully agree with him on others. I fully agree with his ideas on ventilation—I believe ventilation is absolutely essential. It makes no difference how good drainage may be, if you have not let the air into these cavities freely they will not recover, or, if they do, will not stay well. But I am afraid that the doctor in time will change some of his ideas regarding the size of the opening necessary for ventilation. Nature made provision for ventilation through a very small aperture, and placed that aperture in such a way that the air passing by it would exhaust and refill the antrum with each inspiration and expiration. My observation has been that the cases with the largest openings do not always get along the best.

Then, with regard to washing out these cavities. The doctor says that he washes them just as little as he can get along with. I think if he would stop washing entirely and blow the pus out with compressed air they would get along much better. Air is the natural filling for these cavities, and after washing them he will have to dry them before the healing process will go on, and I believe that a current of air is just as good for cleansing purposes as any fluid preparation that can be used.

Dr. Frank Brawley, Chicago: I can subscribe to what Dr. Ostrom says about his antrum punch, because I have come to follow the route which Dr.

Ostrom has selected, not only for the operation, but in every case where I desired to investigate the condition of the antrum diagnostically. I find that by using a curved trocar in this region I have less difficulty in getting into the membranous portion of the meatus than I formerly did when making my punctures in the inferior meatus. It is much more comfortable for the patient and I think, on the whole, there is less discomfort afterwards—less bleeding, perhaps.

As regards the irrigation of the antrum or the use of air, I use both, because after using the simple blowing out process I found that often I was able to irrigate secretion from the cell, and I can see no disadvantage in using irrigation with a mild force, provided you use warm sterile physiologic saline solution. There is no irritation to the cells, and when you finish by drying with compressed air, even though you do not get out all of the saline, it will be absorbed, and it is not as though you were using antiseptics which would damage the ciliated epithelium.

I think, as the previous speakers have said, that perhaps Dr. Ostrom is too sanguine in considering that this operation will cure such a large percentage of cases. It seems to me that the pathology of the individual cases ought to be considered, as Dr. Beck has said, before one can make any definite statement.

Dr. Norval H. Pierce, Chicago: I was unfortunate not to hear the paper, but I can see from the discussion, however, that the question is as to whether we should drain from the inferior meatus or puncture the maxillary sinus. Lately I have given up in radical operations on the maxillary sinus opening into the inferior meatus. I have not touched the inferior turbinated body, but have enlarged the natural opening in the middle meatus, and I find that the cases do exactly as well, if not a little better, as from opening the inferior meatus and destroying a part of the inferior turbinated body. I believe that fully eighty per cent or more of the acute cases can be treated through the natural opening in the middle meatus. In the chronic cases, especially, there is no doubt but that rarefying osteitis, occurring here about the natural opening, tends to enlarge it. In those cases where we can not irrigate through the natural opening, an opening may be made through the middle meatus so that irrigation can be very easily carried out in this manner. This is a much more satisfactory treatment to the patient.

To say, however, that we can cure all cases in this way—chronic ones, where the mucosa is a thickened mass of tissue, polypoid or otherwise, is going rather too far, I believe. My custom is to first exhaust intranasal methods of treatment before resorting to radical measures.

Dr. Ballenger: I would like to ask Dr. Pierce to explain his remark that ninety-odd per cent of the acute cases can be cured through the middle meatus. Do you mean by operation?

Dr. Pierce: They can be treated through the natural opening, by irrigation, without operation. It is my opinion that, as a rule, if an apparently acute condition does not yield to such treatment it is not an acute attack but an exacerbation of a latent chronic condition.

Dr. J. Holinger, Chicago: I wish to differ in several points, one of which is that I do not think that simple ventilation will always suffice, and I have a pretty good argument in this connection. I had treated a patient for at least nine months, and had no difficulty in getting through the frontal sinus with the largest tubes that were at my disposal. There was absolutely free ventilation, and still this man, as soon as I did not wash out the sinus for two days, had fearful headache. I opened, and found the antrum abnormally large, but there was no trace of retention of secretion, but the mucous membranes were so thick—may be ten times the normal thickness—that they caused the terrible headache. I cleaned the sinus out and the man had no more headache. I have talked about this case repeatedly and will not go into details. I filled the cavity with paraffin. That made more trouble. Still the patient was perfectly satisfied with everything, because he was rid of his headaches. If ventilation or drainage had been at fault, I cannot see how simple cleaning out of the cavity could have done all that was expected in order to effect a cure.

As to the Denker operation, I don't think that it is necessary to remove the lower turbinal. The lower turbinal acts as a police in front of the opening of the lower meatus. The Denker operation would leave the lower turbinal just as intact as possible, because it is the very thing; still the opening is always there and cannot close because we have put the flap of the floor of the nose in the antrum.

As to drainage through the middle meatus in acute cases, there is no question that it is sufficient, in the vast majority of cases. Washing out through the meatus usually does good work. But there is certainly a large number of chronic cases where you do not get any result through the middle meatus. In 1897-8 there was a long discussion in the French literature about all these openings through the middle meatus, and every one of the writers coincided with this: No matter how large you make the opening, it will close again, and in six months, a year or two years the opening is closed and the same trouble that necessitated the operation is there again, and a second operation is needed. This is why much more extensive operations than the Denker are performed. Of all those I prefer the Denker operation, especially, as I said, because there is no need of removing the lower turbinal.

Dr. Frank Allport, Chicago: Dr. Ostrom has made one or two remarks that I do not like to go unchallenged, although they are not really relevant to the paper.

He says he does not approve of sealing up the

eustachian orifice in the mastoid operation. He thinks it should be kept open to perform the function of ventilation. Dr. Ballenger, also, in his clinic yesterday made the same remark, and said that in all his experience, which we know is very extensive, he had never seen an eustachian orifice closed up in spite of all efforts to do it. I desire to say to Dr. Ballenger that I have seen hundreds of eustachian orifices closed permanently, and am convinced that this is the proper treatment. I bur out the eustachian tube down to the isthmus with different sizes of hand burs, scrape the bone at the orifice in order to achieve an inflammatory condition there that when it passes will seal the orifice. I am much disappointed when I do not accomplish this as it allows a constant dripping from the eustachian tube and the appearance of an uncured case. I think we should always try to close the tympanic orifice of the tube in order to really complete the cure. In a large majority of cases after the radical mastoid operation we do not get a complete new drumhead, that is, a complete healing over of the end of the meatus, whether you call it drumhead or not, it makes no difference. There is a large number of cases with an opening through this new drumhead, or membrane, or whatever it may be, and unless we get a closure of the tube the discharge will go out through that opening and there will be a discharge from the ear.

Dr. Ostrom makes another statement that I do not like to go unchallenged, and that is that a pretty large proportion of cases of radical mastoid operations are not cured; that is, that even after going through the operation and the subsequent treatment, we still have a discharging ear, necrosis, etc., and another operation may be necessary. I do not feel that this is true. I have watched cases in my own practice and in the practice of others and I conscientiously and honestly believe that the encouragement is great for a permanent cure and for good practical hearing, especially if we seal up the tympanic orifice of the eustachian tube.

Dr. Ostrom (closing the discussion): Of course, in presenting a subject as briefly as I did this it is impossible to even begin to consider physiology or pathology. I take it for granted that that subject is considered before we begin to do antrum surgery. I also take for granted that when a man does antrum surgery to the extent that the distinguished body here assembled has reached, that the question of leaving a sequestrum and only trying to obtain ventilation is also not in any way considered. I will cite a particular case which is as bad as any need be, a case of an engineer who had been operated on by a very noted surgeon. The palate had been removed and the lower portion of the antrum had been removed. He had a hole big enough to drive a train in, to use an expression. The hole was pretty big, but it was continually closing. He had ventilation when it was clean. Had drainage all the time. He was eating pus all the time. In that case I did not attempt to

remove the necrosed bone that still remained, because we cannot always remove it all. In such cases it is all right to leave it alone.

If we have a pathologic condition, if we have a sequestrum, or if we have necrosis, of course we take it for granted that we have sense to take care of that. If you don't take care of that surgically, you will not obtain a cure.

Regarding Dr. Holinger's case, that was an obstructed case. As soon as the opening closed he had trouble—it did not ventilate—it did not drain. You can pack as much as you like in there, as soon as you take it out the mucous membrane swells up and you get obstruction. There is neither drainage nor ventilation. If there were, you would not have pain. There is never pain unless obstruction is present.

The case mentioned by Dr. Pierce is of the type to which I drew particular attention. In cases where we have polypoid conditions I cannot always clean out the ethmoid by any means, any more than anyone else. I do not cure all the chronic cases—the polypoid conditions. These polypi reform, block up the nose, and you have the same condition as before. But in those cases where we have a big opening into the sphenoid, where you can see the pus running out, draining freely, if you do not get the air in easier than the pus comes out, the patient will not get well. Ventilation is more important than drainage, because you cannot have ventilation without drainage, but you can have drainage without ventilation, and as a result ventilation must be more important than drainage. The two must go together.

DIAGNOSIS AND TREATMENT OF MENINGEAL COMPLICATIONS OF SUPPURATIVE DISEASES OF THE TEMPORAL BONE*

NORVAL H. PIERCE, M. D.

CHICAGO, ILL.

It is essential in the diagnosis of otitic meningitis to understand the various ways by which inflammation may spread from the otic structures to the meninges. The most frequent portal of entry into the subdural spaces is by way of the labyrinth, most frequently through necrosis of the external semi-circular canal, next in frequency through the fenestra ovalis, and next through the promontory of the fenestra rotunda. Meningitis may also accompany sinus phlebitis, but does not happen nearly as frequently as the meningitis of labyrinthian origin. Osteitis of the roof of the antrum and the cavum stands in

frequency between the two as a portal of entry. Meningitis may also complicate brain abscess, but in this again the abscess is caused by pathogenic microorganisms conveyed through the same channels as that which produces a primary meningitis.

The bearing which the mode of infection of meningitis has to diagnosis becomes apparent when we recall the symptoms which accompany the invasion of the labyrinth, namely, vertigo, vomiting, nystagmus. These symptoms may occur just preceding the meningeal symptoms or they may precede the meningeal symptoms by months or even years, and it is essential, therefore, in all chronic discharges from the ear with meningeal symptoms to question very carefully into the history as to the occurrence of attacks of vertigo and vomiting. Not only is it essential to establish the way in which the suppurative process has gained access to the interior of the skull, from a diagnostic standpoint, but because it has very important bearing on the method of therapeutic surgical attack, as, for instance, if we have a meningitis due to the extension of the inflammatory process causing a labyrinthitis to the subdural spaces of the meninges, the first essential step is the thorough opening of the labyrinth before we open into the subdural spaces for drainage.

The most frequently occurring symptoms of meningitis is headache. This may or may not be localized, it may or may not be continuous, but is usually very severe when present, causing the patient to cry out in a voice that has been characterized as the meningeal voice.

The next in frequency is the stiff neck, which in all probability is caused not so much by the inflammation as by the increase in the cerebrospinal fluid. The pupils are frequently unresponsive to light. In over seventy-five per cent of my cases the Kernig sign was present, and in fifty-three per cent the Babinski sign was present.

All these symptoms may be present in either a serous meningitis or a septic meningitis. We cannot depend upon them, therefore, in differentiating these conditions, and from a clinical standpoint it is to my mind essential that we differentiate these two conditions. As you may know, medical men are divided into two groups regarding the identity of serous meningitis and septic meningitis. One regards serous meningitis as a

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913, Eye, Ear, Nose and Throat Section.

phenomenon apart from septic meningitis. These, to which the writer belongs, regard the increase in the cerebrospinal fluid, which we frequently see in otitic septic changes, as due to an increased activity of the secretory organs of the meninges, which is caused not by the actual presence of septic pathogenic microorganisms within the meninges, but in all probability by the toxins which are formed in an inflammatory nidus outside of the cerebrospinal canal. These toxins may be derived from an otitis media, pure and simple, as we find, for instance, in infancy and young childhood, or they may be derived from a nidus of infection which has gained access to the cranial cavity but has become entirely and safely walled off from the general cerebrospinal tract. Such a condition, minus the changes which we will later speak of in the cerebrospinal fluid, may produce all the symptoms of a septic meningitis—headache, convulsions, coma, stiff neck, Babinski, Kernig, etc. It is capable of spontaneous and rapid recovery, or recovers after pressure from the increased cerebrospinal fluid has been removed by drainage, either from the skull or the lumbar region.

The other group believes that serous meningitis is but the first stage of septic meningitis, and that if left to itself will go on to the development of general septic meningitis. It is very essential that we differentiate between these conditions because if a serous meningitis is an aseptic condition then we are not justified in operating on it in the same manner as we would if it were the first stage of a septic meningitis. For instance, we must always think that we are liable to change an aseptic condition into a septic condition, especially if we opened into the subdural spaces for drainage through the septic wound in the mastoid.

While this question has by no means been settled, one way or the other, I believe that we can to a certain extent depend on lumbar puncture for our differentiation. By lumbar puncture we obtain a specimen of cerebrospinal fluid which should be subjected to chemical, cytologic and bacteriologic examination. In serous meningitis we have an alkaline fluid, which reduces copper solutions (Fehling's solution). In septic conditions we have an absence of sugar and an acid fluid. In both we may have a fluid rich in round cells and containing polymorphonuclear cells. In

both we may have microorganisms, but in the case of serous meningitis the microorganisms are dead, and in the septic meningitis they are capable of cultivation.

Treatment.—In a disease in which the mortality runs over ninety per cent the prophylaxis assumes great importance. It is not going too far to say that the large majority of cases of septic meningitis are due to neglect of pathologic processes going on in the mastoid and middle ear, both in the acute and chronic stages. An early operation in the acute cases will undoubtedly prevent extension of the inflammation to the meninges, and in a great number of chronic discharges from the ear we have abundant warning signs which indicate that the meninges are becoming irritated, such as slight headaches, recurrent attacks of pain localized to the mastoid, subfebrile temperature, and symptoms referable to the labyrinth, such as slight dizziness, nausea and vomiting. When, however, the serous or septic meningeal symptoms are in full sway, the first thing that is essential in the treatment is the evacuation of the focus within the mastoid and middle ear, and I do not hesitate to say that this is the most important part of the treatment. It is a question in my mind whether any kind of drainage of the subdural spaces has any effect on a meningitis that is septic in character and spreading. Surely, if our diagnosis is not clearly that of a septic meningitis we should refrain from opening the dura in the skull. The reduction of the cerebrospinal pressure may be accomplished as well at a distant point, namely, in the lumbar region. If, however, the diagnosis is that of a septic meningitis, we should endeavor to drain the subdural space as near as possible to the point of invasion. This may be accomplished by draining from the mastoid wound; draining outside of the mastoid wound: *a.* Through the squamous portion of the temporal bone, or *b.* through the occipital region.

Lately our attention has been drawn to the possibilities and advantages of draining through this latter region, namely, via the cisterna magna. However, the results from this procedure have been anything but hopeful, and in a series of cases recently reported by Day, of Pittsburg, in the majority of which a post-mortem was secured, it was found that the pus was not drained from the base of the skull in draining the cisterna

magna, nor was it drained from the anterior surface of the medulla or spinal cord. In a case recently operated on by myself, in which the diagnosis antemortem of septic meningitis was complete, the cisterna was drained at a very early stage of the disease, and yet the patient steadily progressed to a fatal issue.

I am convinced that an operation of such magnitude should not be performed in cases where the diagnosis is not absolutely positive regarding the septic and extensive character of the meningitis. If there is a suspicion that the meningitis is serous or, if you will, in the serous stage, we should refrain from opening the dura within the skull. Opponents to this view will say that the only hope we have for curing a septic meningitis is by an early operation. Against this view is opposed the dangerous probability of transforming a serous meningitis into a septic meningitis, and our inability to drain to any considerable extent the subdural spaces, even in septic meningitis, by any operation whatsoever.

22 EAST WASHINGTON ST.

ABSTRACT OF DISCUSSION

Dr. Joseph C. Beck, Chicago: Dr. Pierce brought out all the essential points in his paper, and I do not believe I have ever heard a better paper, in such a short time. The doctor brought out the fact of the necessity of the analysis of the cerebrospinal fluid. It has been shown lately that the use of chemical analysis to differentiate between serous and septic meningitis is not infallible.

Dr. Pierce also said that the bacteria found in serous meningitis are dead. I have operated on seven of these cases by drainage through the cisterna magna, with six fatalities and one recovery. The case which recovered is a questionable case of a septic meningitis, but the diagnosis of a septic meningitis was made on this fact, that the microorganisms were alive. The copper reduction was that of a septic meningitis, namely, there was no sugar reaction. This was a cure, from the standpoint of the chemical analysis and diagnosis. That case has been questioned, simply because the majority of these cases that have been operated on with a diagnosis of septic meningitis die. I have posted four of these cases, and they correspond exactly with the picture in Dr. Day's book. There is a portion of the base of the skull that is not drained at all by this operation, namely, beginning at the posterior process, and back down to the anterior portion of the foramen magnum. A solid mass of exudate is found there. Nevertheless, this is a point—that cases of septic meningitis result in death. When a diagnosis of meningitis is made, both clinically and by the cerebrospinal fluid examination, I believe that this operation should be given every op-

portunity, so that perhaps through these methods of operating, and, of course, subsequent post-mortem examinations would have to be made, we would come to some definite conclusions of this deadly malady.

Dr. J. Holinger, Chicago. The paper of Dr. Pierce is thoroughly apropos. We have to thresh out this question of meningitis amongst ourselves, amongst the otologists, for the simple reason that we cannot look for any support from anybody else. The neurologists have left us in the lurch. I have several times had occasion to call in neurologists in questionable conditions—several of them—and every time they have left me much more uncertain than I was before. So there is no question but what we have to rely upon ourselves. Therefore, this is the place to discuss the question of meningitis in all its phases, from the very beginning to the final operation and the post-mortem findings.

If we can make an early diagnosis then we can do a successful operation, and without that there is a question. I have taken the standpoint that the main early symptoms are headache and sleeplessness, and later stiffness of the neck. The pain in the ear and mastoid and patient is able to distinguish from the real headache due to the meninges, and these patients tell us that it is not earache, but headache that is bothering them. The sleeplessness is usually characteristic. A patient with a mastoid can be brought to sleep for hours, and may be a whole night, with some morphin or other narcotic. A patient with beginning meningeal irritation will not sleep with morphin, except in rather high doses. But still that is no rule. The changes in the pulse—slowing—I have found absent just as frequently as present. That is not characteristic.

As to the operation, I think we have to distinguish very pronouncedly between acute and chronic suppurations of the middle ear, and according to that we have to expect the spreading of the process in the different routes. In cases of suspected meningitis with acute suppuration you can expect the route through the oval or round window, labyrinth and meninges, but I do not think that the route through the semicircular canals and labyrinth is as frequent in acute infections. In acute suppuration you can expect the route through the cells, or some dehiscence in the cells of the mastoid process in different parts. You can expect the route through dehiscence in the roof of the antrum or the middle ear. In chronic suppurations the route is much more likely to be through the labyrinth and semicircular canals.

As to the question of operation, I think it depends on the route. Drainage of the cisterna magna is very often inefficient, for the reason that the meningitis does not produce a great amount of free exudate frequently, but there is the exudate in the loose connective tissue of the pia, and sometimes there is no question that you will find a great mass of free exudate. I have made post-mortems repeatedly, however, where on taking out the brain there is practically

nothing else but a few drops of slightly bloody fluid left in the base of the skull, but on the base of the brain you see, along the veins and arteries, the suppurative process in parallel streaks of pus in the meshes of tissue of the pia mater. Naturally you cannot drain such a condition through the opening of the cisterna. By such drainage you will get only the free pus in the base of the skull, but, on the other hand, I do not know of any other way by which to get drainage in such a case. Therefore, it is all-important to try and work out the very earliest symptoms that may indicate a meningitis.

Dr. Frank Allport, Chicago: I am sure we have all listened with great pleasure to Dr. Pierce's paper, which has the virtue of brevity and condenses about all we know on this subject in a few words. It is a most admirable paper.

To my mind, the most important point in this discussion, considering the almost hopeless character of the disease under discussion, is prophylaxis. By prophylaxis I mean early operation, both in acute and chronic cases. I have never seen any harm result from opening a mastoid bone in acute cases, but I have seen a great deal of harm result from not opening it. Therefore, I do not believe in waiting until dangerous symptoms are manifested. If we have a case of middle ear suppuration with suspicious symptoms, with perhaps a swollen meatus and bad differential blood count, or any symptoms at all that are strongly suspicious, I would not wait, especially if the infection is of a streptococcus origin. I believe that these cases should be opened early, and feel that this is the best way to avoid meningitis. The same rule can be applied to chronic, purulent otorrhoea. I believe that if a person has this disease that has resisted proper treatment for a reasonable length of time, we should advise operation and thus remove that element of danger. We should make an effort to drain them, perhaps through the squamous portion of the temporal bone, perhaps through the antrum, perhaps by the cisterna magna. When these cases become thoroughly established any effort at drainage is usually a practical impossibility.

I did not hear Dr. Pierce refer in his paper to vaccine and internal treatment of these cases. Possibly he does not believe in this form of treatment, but personally I am of the opinion that in these bad cases of purulent meningitis, incapable of drainage, we will ultimately have to depend upon the use of urotropin, vaccines, etc.

Dr. Pierce has referred to lumbar puncture, and I am firmly convinced that this is a most valuable means of diagnosis.

Dr. Carroll B. Welton, Peoria: Unfortunately, in my practice I have had three cases of meningeal complications following middle ear or mastoid conditions. These three cases all died. In no case was the mastoid opened. I am thoroughly convinced that that is the thing to do, and that Dr. Allport is right. If there are well-defined symptoms of mastoiditis,

the time to operate is at once. If the symptoms are not so well-defined, I wait a few days—say a week—and then begin to find out how the case is going to go. I now believe that to avoid intracranial complications and with well-defined symptoms of involvement of the mastoid present early interference by opening the mastoid, will prevent cranial complications. If the mastoid symptoms are not so well-defined, as I said before, we can wait just a few days.

Dr. William L. Ballenger, Chicago: I was first of all impressed with the brevity and comprehensiveness of the paper. I heartily agree with every point made by the essayist. I want to emphasize the point made by Dr. Holinger, namely, that we cannot depend upon the neurologist to aid in the diagnosis. I have had a sad experience in that regard more than once. I remember one case in particular, in St. Luke's Hospital, Chicago, in which the neurologist made a diagnosis of the abscess of the cerebrum or over the tentorium—he was not sure. I thought it was meningitis and wanted to make a lumbar puncture. The other two physicians in the case objected to lumbar puncture, for what reason I have never been able to find out. They said that they thought it was foolish, and so we did not make it. Then I said to the neurologist, "Will you be present if we search for the abscess, because I don't know where to go; I have no idea of the localization; it does not seem to me that there is one." In the afternoon we operated, under the direction of the neurologist. I explored the brain over the tentorium, through the tentorium, and still no abscess. The neurologist went downstairs and reported to the family that it was a case of abscess, but we were unable to find it, and that it was not meningitis. About the time he was saying that I again suggested lumbar puncture, which was made, and the fluid found loaded with bacteria and other products. It was a case of meningitis, without any doubt. The patient died in the course of a few days, and thus ended the story.

The points of the paper, it seems to me, drifted toward the idea that our hope in these cases is in an early diagnosis, and that is what we are coming to in the study of these cases, fortunately, by lumbar puncture and by other signs—our knowledge of labyrinthine diseases; our knowledge of routes of infection, and by especially being very suspicious on having this peculiar severe headache which comes in cases of meningitis.

I can hardly conceive—perhaps my knowledge of the subject is too poor to enable me to—that a serous meningitis is not a septic meningitis. It seems to me that they are both septic. Adami says that there are just two causes of inflammation. One is infection and the other is trauma, and I cannot see how we can have a serous meningitis without infection, if Adami's view is correct.

Dr. Harry Kahn, Chicago: I am pleased to hear Dr. Pierce's paper, and I wish to call attention to one

point, namely the bacterial flora which causes the otitis media.

I believe the bacteriologist can sometimes be of greater aid to the otologist than the neurologist.

A case in point: A few days ago I was called to see a patient who had been suffering for a couple of months with a one-sided headache and pain in the ear. The case had been diagnosed as a migraine but did not yield to treatment as such. Other neurologic and medical symptoms were absent. There was a distinct pain back of the ear with slight edema about the mastoid region. Temperature was 99.6. I incised the drumhead, and there immediately poured forth a large quantity of pus, which the bacteriologist found to be a pure culture of pneumococcus.

Later the mastoid was opened and showed complete destruction of the mastoid process and back into the occipital bone.

The whole area was necrosed, exposing the brain, and showing a meningitis with some granulations over the sinus. The patient some days later had a chill and developed a temperature of 103. I then opened the sinus and found pus.

The conclusion to be drawn from the foregoing is that the pneumococcus causes an inflammation that subsides, and then there is a sudden explosive exacerbation meningitis sinus thrombosis, and great bone destruction.

The micrococcus mucosus capsulatus should also be kept in mind. If either of these organisms are found we should be on our guard.

A bacteriologic examination ought to be made in every case of acute otitis media purulenta, and the prognosis of the case can usually be given by the result of these findings.

Dr. J. R. Fletcher, Chicago: In view of the great fatality which Dr. Pierce has mentioned—ninety per cent or more, it behooves us to do something at least which will reduce the death rate. The death rate in Dr. Beck's six cases with one recovery is certainly better than ninety per cent. I think the essential feature should be brought out in the operations we are speaking about. We refer especially to the labyrinth operation—not alone to opening of the mastoid. But if the labyrinth is the point of entry, then the labyrinth must be opened. But to open the labyrinth imperfectly is worse than not to open it at all. When the promontory alone has been removed, the trauma which we add to the infection increases the death rate, but when the semicircular canals are all opened together with the vestibule of the promontory, the death rate is not so great. When we go back to the internal meatus the death rate is still lower.

I agree with what Dr. Allport has said regarding early operation, but would like to qualify it by saying that in young children, in whom we have so many of these cases from acute attacks, we can delay long enough to see what a paracentesis will do. After meningeal symptoms are very distinct, we have seen

them disappear very quickly with simple opening of the ear drum.

So far as the early symptoms are concerned, mentioned by Dr. Holinger, I think that is admirable, but I think we ought to be a little more definite about the localization of the headache, etc. We know that we can outline it just behind and above the ear and have the pain project forward. I think it was Ruttin who first called attention to the mucosa capsulatus causing the majority of cases of meningitis. In that connection it might be well to say that when we find the mucosa capsulatus it is just as well to operate before we get the symptoms, because in nearly every case in which that organism is present the condition will go on to a meningitis.

Among the other symptoms is nystagmus, with its accompanying series of vertigo, nausea and vomiting. We ought to look for it very early. If we look for it with the eyes distinctly directed to first one side and then the other, as we can in small children by attracting their attention with bright objects, and if we then look very closely, we often find the nystagmus where we thought there was none, and that has been the error in the older authors when they said there was absence of nystagmus, when, in the light of our present knowledge, it was not possible that nystagmus was absent.

Dr. Joseph C. Beck, Chicago: I would like to have Dr. Fletcher repeat what he said, so that perhaps the reader of the paper can answer that point.

Dr. Fletcher said that every case of streptococcus capsulatus was due to meningitis. That is not my experience. Does he still insist on that fact, because in the examination of ears, where you find that organism, you would give an immediate prognosis that it would be a meningitis.

Dr. John R. Fletcher, Chicago: I meant to say that those cases showing any meningeal symptoms should be operated on at once.

Dr. J. Sheldon Clark, Freeport: I was very much interested in Dr. Pierce's paper.

The principal thing in these cases is to make an early diagnosis. A late diagnosis in these cases, to my mind, is worth nothing. During the last eight years I have had five cases, with one recovery. Three of these cases followed mastoid infection, and one from typhoid infection. The other one was rather obscure.

One point in regard to lumbar puncture. In the last case I had, one following an attack of measles with mastoid infection, I did a lumbar puncture and we got a purulent fluid. Examination showed the meningococcus present, found all without the cells. I think that is a point in prognosis to look for. The fact that the cocci are without the cells is of interest in these cases. In three fatal cases observed recently by Dr. N. R. Harlan of Freeport the cocci were all extra cellular from the beginning, whereas in one case, where recovery took place, the cocci were early found intracellular. In my case, after

withdrawing thirty cc. of fluid, we got a collapse of the patient, and it was necessary to perform artificial respiration. This man also had stimulants. Once in a while lumbar puncture will cause the patient to sink very rapidly, and one should be prepared for such an emergency.

Dr. Pierce (closing the discussion): I thank the gentlemen very much for their kindly reception of this paper.

In regard to Dr. Allport's recommendation regarding the necessity of depending on serum and vaccine, I heartily agree with him, but not in the present state of vaccine and serum therapy. There is no of meningitis, after the inflammation is once thoroughly established in the pia, is in serum therapy or vaccine therapy, but this has not been developed to the point of effectiveness as yet.

In regard to lumbar puncture in diagnosis: Our knowledge of meningitis from beginning to end, our knowledge of the anatomy of the meninges, of the cerebrospinal fluid, is pitifully fragmentary. We really know very little about the anatomy of the subdural spaces. We know very little about the circulation of the cerebrospinal fluid—how it comes or where it goes. Why is it, for instance, that coloring matter, injected into one portion of the cerebrospinal spaces will take a certain course, coloring a certain portion and not coloring another? It remains for the future to clear up much that is dark as regards our knowledge of the meninges. It is a most profitable field of research.

But, notwithstanding all that, we still must say at the present time that for diagnostic purposes lumbar puncture is the most dependable measure that we have.

I agree with Dr. Ballenger that neurologists often confuse more than aid us. We have to depend upon ourselves, and we must prepare ourselves more and more to handle these cases personally, and not depend upon an array of consultants.

I do not say that serous meningitis is not inflammatory in its nature. Serous meningitis is caused by toxins of pathogenic bacteria but not by the bacteria themselves. The toxins gain access to the cerebrospinal cavity and thus stimulate the secretory organs of the meninges. That is my opinion at the present time.

OPERATIVE TREATMENT OF FRACTURES WITH CONTRACTURE OF THE ATTACHED MUSCLES.*

P. B. MAGNUSON, M. D.
CHICAGO, ILL.

The question of when to operate on fractures has been the subject of much discussion. The

rules laid down by authorities heretofore have been never to operate on a fracture immediately after its occurrence, the reasons being: 1. That the tissues are traumatized by the violence of the causative factors, giving rise to stagnation of blood and a decreased resistance of the parts. 2. There is considerable hemorrhage resulting in a blood clot around the broken ends of the fragments. It probably as a general rule is best to follow the precedent laid down by these authorities. However, the fact remains that if there are no bacteria introduced into the wound by the operator, there is no reason why we should get infections in the early cases any more than in the late ones. In comparing the results of the two methods, that is, operating on fractures at sight when it is necessary to operate on them to hold the fragments in position, and operating on them a week to two weeks after the injury, I can find no material difference in the result.

I believe that the preparation for operation in these cases is one of the most important factors in the technic. All cases of fracture are due to violence, either direct or indirect. There is usually some damage to the soft parts at or near the seat of fracture. The skin is dirty, from a surgical standpoint, and with one scrubbing it is impossible to clean these cases up in a satisfactory manner. It has been my custom in all cases to thoroughly scrub the parts surrounding the point of attack or fracture for at least a foot and a half in all directions, not neglecting to see that the limb is scrubbed as thoroughly underneath as it is above, and that the scrubbing extends well on each side of the fracture. This is done with a brush and green soap, sometimes once and sometimes twice before the operation. The limb is then washed off with alcohol and ether and wrapped in sterile dressings, until the patient is brought to the operating-room, when the dressings are removed, the patient's limb again thoroughly shaved and scrubbed, and again washed with alcohol and ether. It is necessary for the operator himself to look after these details, unless he is fortunate enough to have with him an assistant whom he can depend upon at all times. The ordinary hospital interne does not appreciate the necessity of a wide field, which is perfectly sterile.

As a typical example of the class of work under discussion, let us take a fracture of the

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femur, since this bone has larger muscles than any other and is probably the hardest bone in the body to handle, from a surgical standpoint. The armamentarium of a surgeon who is doing bone work should be complete, for the handling of bones cannot be successfully done with the hands. It requires special instruments.

In the case of a fracture with contracture of the muscles, as practically always occurs in femur cases, there should be some sort of ap-

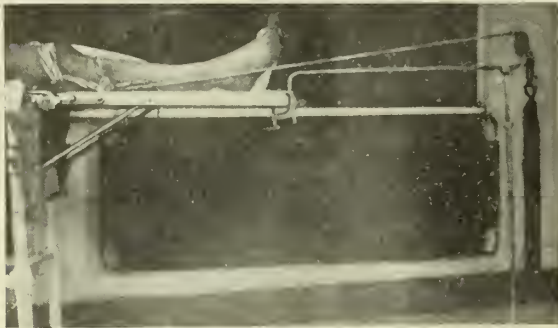


Fig. 1—The Extension Applied

paratus to stretch the muscles, and bring the fragments into apposition without too much manipulation inside the wound. In my work I have used a very simple and inexpensive apparatus consisting of a rod which is clamped on to the end of the table and holds a pulley at some distance from the table. This rod is supported by a standard set upon the floor. Before the patient is brought into the operating room a loop of ticking is thrown around the knee, gripping above the patella, running under the knee and around the leg, and tied in a knot above the crest of the tibia. This gives a firm grip on the thigh, without any traumatism to blood-vessels or nerves which pass under the knee joint. From this loop of ticking a rope is run over a pulley at the foot of the table and to this rope window weights are attached. By this method we get a steady strong pull on the muscles, while the incision is being made, providing there are no adhesions between the fragments, as in a fresh case, and by the time the incision is made and the ends of the fragments exposed, they are pulled into line by the weights and very little manipulation inside the wound is necessary.

In the old cases with contracture of the muscles and adhesions between the fragments, either fibrous or bony, I attach only about twenty

pounds of weight to the rope until after the incision is made and the adhesions freed. After the adhesions are freed window weights are attached to the rope until the muscles are seen to stretch rapidly enough to suit the operator's convenience. I use from fifty-five to a hundred pounds of weight on a femur of a full grown man, the reports of which cases I will give in detail later in this discussion. It has been my custom to protect the wound from contamination by covering the skin with towels and fastening the edge of the towel inside the edge of the wound either by safety pins or Moynihan forceps. If we could be absolutely certain that we would not forget ourselves and handle the skin in the course of the operation, I believe that this would be an unnecessary step, but when operating with assistants it is practically impossible to keep everybody's hands off the skin, and it probably makes it easier if we make our wound fool-proof.

After going through the muscles and exposing the bone well above and below the seat of fracture, the ends of the fragments are observed usually in very close apposition. The only manipulation necessary usually is to rotate the fragments so they bear the proper relation to one another. For this work the handiest instrument of which I know is a heavy Lane forceps. The fragments being in apposition, it is sometimes a very simple and sometimes a very difficult matter to hold them there until the retention apparatus, whatever it may be, is applied. I have never found it necessary in any fracture, however, to cut the bones in any way, either to assist in holding the fragments or because the ends could not be brought into proper apposition. An assistant at the foot of the table manipulating the lower fragment as directed, while the weights are still on, is usually able to bring the bone into perfect line, after which it can be held very nicely by the use of a Lohman clamp.

There are many forms of apparatus on the market for stretching muscles, most of them very expensive. The best of these probably is Ridlon's apparatus, which consists of a heart-shaped plate on which the sacrum rests, at one end of which are two steel rods, as counter extension against the perineum. This plate can be raised and lowered by a crank under the table, so that after any operation is complete a plaster spica of the hip may be applied without moving the pa-

tient. From one end of this plate extends a long steel rod on a ball and socket joint. At the far end of the rod is a ratchet. To this ratchet is run a strap which is wound around the foot. As the ratchet is tightened up, the strap pulls on the foot and the rods in the perineum give counter-extension. This is a very efficient stretching apparatus, since the leg can be moved freely in all directions and there is no limit to the pull which one can make by tightening up on the screw. A hip can be pulled out of the socket with this without any exertion on the part of the operator. In cases of fracture of the neck of the femur a perfect apposition can be had in about a minute or two, and the apposition can be maintained until the fracture is nailed. It is not necessary, however, to carry with one a stretching apparatus when Nature has provided a powerful lever if the fragments themselves are used against each other. Given a case with two inches of shortening in the femur, if the fragments are freed and projected through the wound at an angle, the ends being brought together, a notch cut in one fragment and a corresponding point on the other, the leg can be pried back into shape and the muscles stretched as easily as in any other way. The objection I have to this method, however, is that there is considerable confusion, dragging around of the patient on the table, in musing up of dressings, and the manipulations sometimes must be repeated a number of times before the fragments are brought end to end in a manner to suit the operator. There is distinct advantage in the stretching apparatus over this method, in that there is no confusion, there is no manipulation of the bone inside the wound, and there is less likelihood of an infection.

The problem of holding the fragments in place has received much consideration of late. The most common method probably is the use of the Lane plate. It is a well-known fact, however, that tissues often rebel at holding foreign bodies, and this is true of Lane plates in a large majority of cases, notwithstanding the general impression that if the plate is properly put in it will stay in indefinitely. In conversation with surgeons of world-wide reputation I have almost invariably heard them say, when discussing the subject, that about eight out of ten plates eventually come out. It is, therefore, advisable for us to find some method of holding bone fragments

without putting in a non-absorbable material. While working on experimental work at the University of Pennsylvania some years ago, the problem being "Lengthening Shortened Bones of the Leg," I found the only means of holding the fragments in apposition without some necrosis or softening of the bone was by the use of ivory. Ivory is an animal matter and is eventually absorbed by the bone, the bone growing in as the ivory is absorbed and maintaining at all times a close apposition without necrosis of the parts involved. The process of absorption is more or less of a mystery, although a few osteoclasts could be found surrounding the ivory at various points. The fact remains, however, that ivory screws nearly the size of a lead pencil were entirely absorbed, so that they could not be found with the microscope in three months. In view of this fact, it has been my object to develop a method of holding bone fragments in close apposition without using a material which had subsequently to be removed. I believe that ivory answers all purposes, it being strong enough to hold any pull exerted upon it by the muscles, maintaining its hold on the bone closely and causing no necrosis or softening around it, and, finally, being absorbed by the tissues.

In oblique fractures which must be operated on it is my custom to use an ivory screw or, if necessary, two screws, first drilling a hole the diameter of the screw at the base of the threads, after which a tap, such as mechanics use for cutting threads on the inside of nuts, is put through this hole and a thread cut the same size as that on the screw. The screw is then inserted, which needs no force, and cut off flush with the cortex of the bone at both sides. The absorption of fluids by the ivory expands it enough so that in twenty-four hours there is no play between the fragments whatsoever.

This method, of course, is applicable only to oblique fractures. In transverse fractures an ivory plate is used, a slot being cut in the bone the exact width of the plate, and the plate driven into this slot so that one edge rests against the cortex opposite the slot of entrance. (See Fig. 2, A, B and C.) This plate is held firmly in place by ivory pegs driven through it on each side of the fracture. (See Fig. 2, D and E.) So far this method has been very satisfactory. I have been forced to take one of these plates out in a

fracture which became infected on account of a slough occurring where the tissues were traumatized at the time of the accident. The plate was in six weeks and showed very marked erosion on both sides. The ivory pegs which held it were half eaten away.

This method, of course, is still in the experimental stage, but whether it results favorably or not, I believe we should persist in trying to find a method of holding fragments of bone without introducing foreign matter or, rather, non-absorbable matter into bones.

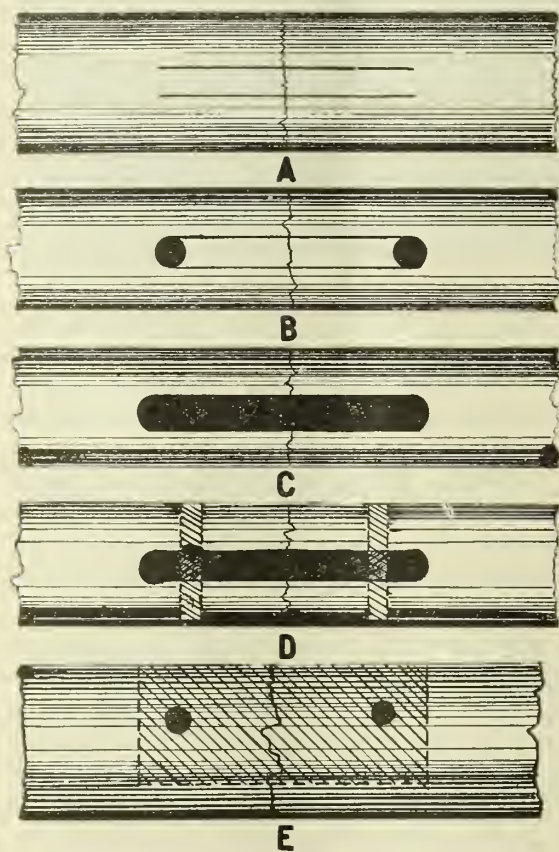


Fig. 2—The Ivory Plates

The question of after-treatment of these fractures is very important. We have all operated on fractures, had the patient leave the operating table with a splendid position and in six weeks, to our surprise, have found quite a marked deformity. I know this has been my experience and the experience of a number of others. I believe that there is no retention apparatus applied directly to the bone which will hold against the steady pull of the great muscles of the femur.

It is my custom to apply a cast to all fractures operated on and reinforce it with a Buck's extension. This does two things: It holds the bone in line, preventing deformities; it also relieves the pressure on the ends of the fragments, and prevents necrosis, which is inevitably followed by shortening.

In conclusion, I would say: Operate on fractures at sight if they must be operated on, providing, first, that you are able to control the technic; second, that you have the proper instruments, third, that there is no pus present; fourth, if there is contracture of the muscles that there be at hand the proper apparatus to stretch these muscles so that the fragments may be brought into apposition accurately without sawing off or chiseling off the ends of the fragments; fifth, that a cast and extension is much preferable to a cast without extension, or an extension without a cast.

ABSTRACT OF DISCUSSION

Dr. Samuel C. Plummer, Chicago: In regard to the length of time after the injury we should operate it seems to me the general tendency is to delay a while, usually a period of from seven to ten days, until some of the immediate effects of the traumatism have passed away and until the circulation at the site of the injury is somewhat restored. We never can be sure of absolute asepsis.

In regard to using alcohol or, what is simply reinforced alcohol, tincture of iodine, for the last cleansing before operation, there is one point to be borne in mind, and that is that alcohol cleansing is much more efficient if no water has been applied to the skin surface within a period of a few hours.

In regard to the method of extension in cases of fracture, as shown by Dr. Magnuson, the extension being made by heavy weight, I wish to say that I have had some experience in that line, and I am in accord with him as to the efficacy of it. The heavy weight continued does extend where ordinary methods of other sorts do not. Even though you have strong assistants, they cannot keep up a continuous traction of 50 or 150 pounds the way this extension apparatus can. It is efficient in overcoming the contraction of the muscles. It can be used on the lower extremity, as has been shown, and it can also be used on the upper extremity. As an example of this, I had one patient with a transverse fracture of the lower end of the humerus; it seemed impossible to get this fracture in line; to get the two fragments into apposition by any ordinary means, and finally with the patient asleep and the forearm flexed at a right angle, a broad band was put around the forearm close to the elbow and the extension apparatus was used with a weight of about fifty pounds left on. After half an hour's manipulation of the fragments it came down in good apposition. Without that

nothing short of an open operation would have sufficed.

Dr. W. F. Grinstead, Cairo: I believe it will be interesting to the society to know of the method that is now being employed by Dr. Howard Lilienthal of New York City in using the Lane plates in these different fractures. It was reported by the essayist that in the service of Dr. Ridlon and Dr. Beck it was necessary to remove the plate in eight out of ten cases. Dr. Lilienthal, who holds clinics at Bellevue Hospital and also at Mt. Sinai Hospital, says that many of our plates are removed by other surgeons and we do not hear of it; that the patients, instead of coming back to us, report their difficulties to others.

Dr. Lilienthal is a man who does his own thinking. He is original, as many of you know, in his methods. I visited his clinic about three weeks ago and I found he was using screws that projected some distance beyond the skin with a view of removing the plate. The plates were not supposed to remain. He is having these screws made by Tiemann & Co. of New York, and at the end of the plate he attaches a small silver wire cable, this little cable being made of four strands of size 34 silver wire. These cables, he says, do not break so readily as the single strand of wire. At the end of the plate he makes a little hole which does not interfere with it, puts the wire through and brings it out at the end of the incision. He leaves the plate about three weeks. With a small screwdriver he withdraws the screws, then he pulls the wire at the end of his incision without an anesthetic and draws out the plate. It does not hurt the patient, he says. I saw him remove one from a patient and the patient did not wince while he was doing it, and he pulled the plate out through the end of the incision. This should be done at the end of three weeks. By that time nature has made sufficient union that the bone can be held by ordinary means.

Dr. Carl Beck, Chicago: Dr. Magnuson's paper on the use of ivory pegs marks certainly advance in the operative treatment of fractures. There is no doubt that there are a number of cases in the practice of every surgeon in which the plates have to be removed, and it seems that while the Lane plate is used extensively with very good results in a number of cases, still, the plates cause a great deal of damage in producing osteomyelitis. There is a necrotic process following which extends to the size of the screw, and if you examine the bone afterwards, particularly when the sepsis has not been perfect, there is in both cases a serous, if not a purulent, discharge. On account of this a great many of these cases afterwards are the subject of secondary operation for removal of the plates. The beautiful result, as shown in the case of bad fracture of the forearm, shows it can be used with good effect in the same way and it is absorbable material. We have gone through the same experience with the anastomosis button, afterwards with the absorbable

button, and later on, without any button. We may all get to some method by which we get union, but the use of ivory marks an advance in the method of treatment.

Dr. Daniel N. Eisendrath, Chicago: I have been very much interested in Dr. Magnuson's paper and with reference to the method of disinfection my own experience has been that iodine is a safe method of disinfection. I believe in washing up the patient the night before operation, and then on the following morning, just before the operation is performed, I apply 50 per cent solution of tincture of iodine; in other words, 3½ per cent tincture of iodine.

In regard to the main subject of the paper the subject of ununited fractures I believe there can be a difference of opinion, and the more experience I have in reference to this subject the more my tendencies are towards conservatism. I do not believe we ought to call a fracture ununited at the end of four or five or six weeks. A great many of these cases have been primarily maltreated in that the fragments were not properly fixed or adjusted in the beginning.

There are two main principles in the treatment of fractures and those are, in the first place, absolute fixation in the corrected position, and, second, the absolute prevention of motion at the point of fracture.

My own views in regard to the Lane plate have changed considerably. I saw a great many cases of fracture operated on at the county hospital, where they would take an hour and a half to try and reduce a fracture and then expect a fracture after that amount of manipulation and possible infection to heal by primary intention. The secret of why I have changed my views and have had better success with the Lane plate in the past year and a half than in the previous two years is that my period of time has been reduced to a minimum. Seldom, if ever, is it over fifteen to twenty minutes. We have all our apparatus right at hand and as Dr. Magnuson has said, no man ought to operate on fractures without a perfect armamentarium for that purpose.

Dr. Jacob Frank, Chicago: It is not as easy as the reader of the paper would give us to understand to use this apparatus or any other kind of apparatus for the purpose of reducing an old fracture. With its use there have been failures and I have seen failures in other cities. I saw a failure in Philadelphia where Dr. Magnuson made his experiments. It is quite different when we come to use this apparatus in a recent fracture, but in a fracture that is ancient and where the displacement amounts to two or three inches, especially in the arm, there is not an apparatus constructed that can pull it down without danger to the life of the patient. I saw Dr. Martin of Philadelphia use an apparatus similar to the one that has been described and I believe this one is copied after that of Dr. Martin.

Dr. Magnuson: No, sir; this was made before Dr. Martin's.

Dr. Frank: I saw Dr. Martin fail in reducing a fracture of the humerus where he worked for three-quarters of an hour, finally gave it up and had to reset the bone.

It is more difficult to reduce a fracture of the humerus than it is a fracture of the femur. No matter how ancient a fracture of the femur is, if you clean the bones up, bring them out from the wound and refreshen the ends, they can be brought together. You cannot do this in a fracture of the humerus. It is an utter impossibility to do so.

Dr. William E. Schroeder, Chicago: I do not suppose there is any man in this audience who can say more about Dr. Magnuson's work and method than I can. I have seen the doctor operate on each and every case. I have had a good deal of experience with the Lane plate, and have come to believe that Mr. Lane himself will ultimately have to abandon the plate, for the reason that it is a metallic foreign substance which gives trouble ultimately in the majority of instances. I have seen Dr. Magnuson's work in the use of the ivory, which is absorbable material. It absorbs slowly and gives no trouble, and I think with Dr. Beck that the introduction of ivory into bone work is a distinct step forward and I wish him much success.

As a matter of technic it requires no small amount of skill to know where to keep your hands and when to keep them off from using the apparatus for the application of the ivory plates, and that technic I fully appreciate the doctor has acquired.

Dr. C. B. Brown, Sycamore: I have been very much interested in this discussion and wish to say that there will be no Lane plates taken out by me, because I have had no experience with them. I have some in my office.

Dr. Eisendrath has well said that we must reduce and we must retain the fracture. With all due respect to the Lane plate and the ivory plate, what have become of those people who thirty-five and forty years ago had broken femurs and broken arms. They are not going about crippled and deformed. They had no Lane plates applied and no ivory plates. I have seen lots of them with broken femurs who have made excellent recoveries without any such apparatus as this.

With reference to ununited fractures I once asked Dr. Moore of Rochester, N. Y., who was an old and experienced surgeon, in regard to a case of what I thought was ununited fracture which was taxing me to the utmost. He said to me: "My dear young fellow, I have seen a great many cases of delayed union, but very few cases of ununited fracture."

Dr. John Ridlon, Chicago: Some of you will continue to use the Lane plate for quite a time. Some of you may have the misfortune to have your wounds following operation suppurate. Do not be alarmed at that. Do not take out the Lane plate until you get union, because you will get just as good union with your suppuration by leaving the Lane

plate with the limb in a plaster cast eight weeks, maybe longer; then when you have union, take out the Lane plate.

THE TREATMENT OF TRACHOMA WITH SPECIAL REFERENCE TO EXPRES- SION AND FRICTION WITH THE AUTHOR'S GROUND GLASS ROD

C. G. DARLING, M. D.
CHICAGO

In the treatment of an infectious disease such as trachoma, much stress should of course be laid on prophylaxis and the disease be treated as nearly as possible like a contagious one, this being especially true if a discharge be present.

The patient should, of course, sleep alone, the bedding (particularly the pillow cases) and all of his laundry be kept separate from that of others, and he should have towels, napkins, washcloths, wash basin, etc., for his private use.

It is necessary for the physician treating a case of trachoma to make the patient understand why he has to be so careful, as one is apt not to spend



the required time to fully impress the importance of prophylaxis on the patient's mind when seeing many cases in dispensary practice.

A great step would be taken in the prevention of this as well as other serious diseases if all public wash rooms (clubs, schools, hotels, etc.), were compelled by law to install flowing basins, the water being controlled by foot pressure, there being of course no stoppers for the basins. Further, there should be no such thing in a public wash room as a roller towel, paper or individual ones being required.

The basic rule in treating disease of the conjunctiva is to keep the eye free of all discharge. This can usually be accomplished by the patient, frequently flushing out the conjunctival sac with a normal salt solution, boric acid, or 1/10,000 bichlorid solution. If the trachoma is an acute one, some preparation of silver should be used to control the discharge, the lids may be painted daily with a one per cent silver nitrate solution, and the excess washed away or neutralized. In place of silver nitrate, protargol, five per cent, or

*Read at the Sixty-third Annual Meeting of the Illinois State Medical Society, at Peoria, May 21, 1913, eye, ear, nose and throat section.

argyrol twenty-five per cent, may be dropped in the conjunctival sac or brushed on the conjunctiva.

Cold applications frequently applied are of service at the time, and I might also state that it is a great mistake to use a bandage when a discharge is present, as free drainage is thereby interfered with.

Innumerable drugs have been recommended for use when the trachoma is not an acute one, copper in some form being one of the oldest as well as the one most advised. Copper sulphate crystal, aqueous solution of copper or a ten per cent solution in glycerine, citrate of copper, etc., these being dropped into the eye or rubbed into the conjunctiva and are used for their stimulating effect on the conjunctiva as well as for their antiseptic value.

Tannin in boroglycerine and yellow oxide ointment are also highly recommended.

The best results in the treatment of non-acute trachoma are obtained by the use of some of the mechanical or surgical methods. Probably the most ancient procedure was the rubbing or scraping the trachomatous conjunctiva with fig leaves or pieces of stone or wood. This method is named by the French grattage and numerous instruments have been devised such as files, rasps, curettes and wire brushes, among them the trachomatome of Jameson,¹ and of late, the sandpaper treatment of Coover² in which the lids are everted and smoothed down with strips of 0 or 00 sterilized sandpaper, this method having given excellent results, and Coover believes it to be better than the use of boric powder previously used by him.

Pressure has also long been used to express the contents of trachomatous follicles, the thumb nail being one of the first instruments employed. This was advised in this country by Hotz in 1886,³ and a little later the instruments of Hotz, Prince (presented before this society in 1889), and Noyes⁴ appeared to be followed by Knapp's⁵ roller forceps in 1891. Expression by means of one of these instruments undoubtedly hastens the cure of trachoma.

I believe the expressors of Kuhnt⁶ which consists of two perforated blades (or one perforated and one plain blade) causes less trauma and traction than any of the others, as the blades are simply pressed together. They also have an advantage in that they can be used without everting

the lids. Expression is most successful when the follicles have commenced to show softening at the beginning of the second stage of the disease (when they are ripe, in other words). Expression with forceps is contraindicated in acute trachoma, during exacerbations and in the last stage.

Massage has also proved of great benefit in treatment of trachoma and can be used in all stages of the disease. It can be made with the fingers, cotton swab, smooth glass rod, glass balls,⁷ ground glass rod, etc., without the use of other remedies or the swab or rod can be moistened and covered with boric acid powder, iodoform, calomel, aristol or the solutions of bichlorid 1/250 to 1/3,000, argyrol, protargol, yellow oxide ointment, brown ointment or other drugs, and it is probably the massage and expression that accomplishes a large part of the good that is done even when massage is combined with the use of some drug.

The ground glass rod which I have had made by F. A. Hardy & Co., I believe offers some advantage over the plain glass rods and balls which have for the past few years given most excellent results in the treatment of all stages of trachoma. This rod is ground on one side only, the smooth side being introduced next the cornea. The rod, because of its slightly roughened surface, will "pick up" a solution or powder better, and for the same reason will smooth out the conjunctiva better than a plain rod or ball. It also has a ground glass ball at the end of the handle that can be used to massage the lids when they are everted.

Before using the rod the eyes are flushed out with a boric or 1/10,000 bichlorid solution to get a good mechanical cleansing of the conjunctival sac. If a vigorous massage is to be given or the patient is very sensitive a 2 per cent cocaine solution in adrenalin is instilled, although after a few treatments a rather severe treatment is well borne without anesthesia.

The upper lid is drawn down and away from the eye and the rod is introduced well up into the retrotarsal fold, the smooth side next the cornea, the rod is used without any medicament or is dipped in the solution or ointment to be used or, what I prefer, moistened and dipped in one of the powders mentioned, before introducing it behind the lid.

The lid is pressed against the rod by the thumb

of one hand and the rod moved back and forth over the inner surface of the lid and retrotarsal fold with the other; the lid is also stretched a little at the same time by pulling the rod forward.

The lower lids are treated in the same manner, only the lower lid is drawn up when the rod is introduced. This treatment may be applied every day at first, and later less frequently. If all the follicles are not expressed after a few treatments, they can be opened with a needle or knife point before massaging the lid.

The plain glass rod has given such excellent results by mechanically stimulating the conjunctiva and thus hastening the absorption and reduction of the follicles, and thinning and smoothing out the lids, that I believe the ground glass rod with its advantages, has a place in the treatment of this disease.

The pressure between the lid and thumb can be made as strong as you wish, and the tarsus as well as the deeper layers of thickened conjunctiva can be reached by the treatment.

The rod can be used in connection with any other treatment, after expression with forceps, and in all stages of the disease, even in the acute form, to better apply argyrol or other drug. Of course at this time vigorous massage should not be used.

Other forms of treatment which I will only mention are electrolysis following scarification which Lindsay Johnson⁸ after twenty-five years still believes to be the best treatment.

Treatment with radium or x-rays has been reported by some to give good results. Jequirity is recommended again every now and then for old trachoma with pannus, but it seems to me to be somewhat severe, as is also the inoculation with the gonococcus.

Excision of a strip of infiltrated fornix alone or combined with excision of the tarsus is considered by many to be an operation for the last stages of the disease when it is too late for other methods of treatment or the other methods have failed.

There are the necessary operations for the sequellae of trachoma such as canthotomy and entropium operations; also peritomy for pannus, etc., of which I will not speak.

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122 S. Michigan Boul.

A LITANY FOR DOCTORS.

From too few patients and from too many patients; from hypodermic syringes that won't work; from book agents; from consultants who steal our cases; from rheumatism; from collecting agencies; from stupid nurses; from people who are going to pay for visit next Saturday night; from antikamia calendars; from tire troubles and Christian Scientists—good Lord deliver us.

From the people who begin their letters to us, "Dear Sir"; from static machines in damp weather; from boils on the back of the neck; from debts and detail men; from Pa-pa-yans Bell blotters; from anti-vivisectionists; from nurses who know more than we do; from "cures" for tuberculosis; from "textbook" papers, from incurable cases of imaginary disease; from Bernard McFaddists; from tag days; from new methods of administering salvarsan; from "automobile" fractures; from infant foods; from anti-vaccinationists; from nature curers; from Immanuel Movers and the treponema pallida—good Lord deliver us.

From the people who call us "Doc"; from malpractice suits and deadbeats; from gossips; from overly-grateful female patients; from pretty nurses and jealous wives; from the doctor who succeeds in a case; from the "wrong number" mistake; from consultations by telephone; from the counter-prescribing druggist; from lawyers and dentists; from samples of Sal Hepatica; from the man who wants us to help his lady friend out of trouble; from calls at 2 a. m.; from shoulder presentations; from optometrists and engine trouble; from the man who "cannot add anything to the paper, but merely wants to compliment the essayist"; from meta-amidopenyl-paramethoxychinolin; from New Thoughts and mining stocks; from breaking catgut; from neurasthenics; from "the sponge we left behind us," and from the dangers of tricresol 0.4 per cent.—good Lord deliver us. Amen.

—From the *Lancet Clinic*.

From the surgeon, whether of class or "group" A, B, C, or X, who removes a normal appendix through an incision for nephrorrhaphy:

From Ohrspeicheldruesenentzuendung:

And from Phenylidimethylpyrazolonamidemethansulphonsaures natrium.

Good Lord, deliver us.

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Editorials

THE AMERICAN COLLEGE OF SURGEONS.

Medical circles throughout the middle west have been recently agitated by the formation of an association known as the "American College of Surgeons," whose avowed object is to regulate the practice of Surgery (sic) and to elevate the same. A consideration of the relations of this body to the medical profession, as far as they are apparent at the present time, will be of interest.

"A" The American College of Surgeons was incorporated at Springfield, Ill., Nov. 25, 1912. The object for which this association was formed as stated in its charter is "To establish a standard with minimum requirements for the practice of surgery by graduates of medicine, and to devise methods of ascertaining who meet these requirements, and to confer upon such persons a fellowship in this association."

This association, then, is composed of a body of men selected, for various reasons, by individuals in different parts of this country and Canada who were authorized by the incorporators of the association to act as mentors for their particular territory. The only qualification nec-

essary seems to have been surgical tendencies, in some cases exceedingly remote, and sympathy with the purpose of the organization, which in some instances at least appears to be due to a fear of wrath to come, as the board of regents will be under the domination of the incorporators and the latter are responsible to nobody.

In England the society after which the American College of Surgeons is patterned is the outgrowth of centuries of association with privileged classes in social and political life, and governmental affairs, a situation which has no counterpart in American life and institutions, and which is contrary to the spirit of American Medicine. As far as the relations of such a body to the welfare of the medical profession is concerned the Royal College has never accomplished anything for the mass of British practitioners which would entitle it to special distinction, except to favor the aggrandizement of the few at the expense of the many.

One of the objects of the C. of S. as specified in its charter, and apparently the chief one, is to determine *who shall practice surgery*. To the unprejudiced mind it would appear that in consideration of the authority vested in the university diploma, and that legally applying to State license to practice medicine, the assumption of this duty by a self constituted, unauthorized association is somewhat anomalous. The intention of this association to go to the various State legislatures and have the laws so amended as to relegate to them, or some other body, licensing power restricting the practice of surgery to those who have had special training and experience, is impracticable because in the general practice of medicine the line between medicine and surgery cannot be so definitely drawn and the restrictions placed on the country doctor would be such as to render him practically useless to his community. In the matter of restricting the practice of special surgery to the elect there appear the objections of definite division of field, emergencies, and above all, the fact that such a course would not conserve the public welfare as completely as claimed.

Better surgical work is undoubtedly needed. It would be a sad day for medicine if this were not generally recognized; but to fling hearages of "legalized murder" and accuse the man who is "nothing more" than a physician with at-

tempting to practice surgery appears rather strange coming from those whose beginning in surgical fields was and is today marked by trails that were not outlined in medical publications. Perfection of technic is essential to the surgeons, but it does not make the surgeon. In the absence of pathological knowledge and prognostic skill and good judgment the so-called surgeon is a greater menace to the public than the tyro in surgery. Likewise the physician who is entitled to the appellation has too much sense to attempt surgical work for which he has not been trained, while the one who lacks sense is a covert and even a greater menace than the ill-equipped surgeon. Medical standards have advanced more rapidly in the past fifteen years than during any period of fifty years in the history of medicine. We need further advances, but they should come through the various State boards of health and should be furthered by appropriate committees of the American Medical Association, the State societies and their constituent bodies.

We do not believe the assumption of these reforms by a self constituted body of medical men is advisable, especially when such organization is so palpably open to the charge of self advancement of its members that even the laymen are asking "What are you going to do about it?" Reasonable objection to the formation of a surgical oligarchy can not be made provided such an organization does not advertise itself in a manner offensive to the medical profession. We would all admire (their "gall") but do not care to wear the collar of their authority.

THE APPELLATE COURT DECISION

In our November issue we published the major part of the decision of the Appellate Court, entitled "The People, *ex rel.*, G. Frank Lydston, appellant, *vs.* John E. Wayman, state's attorney, appellee," a case very materially affecting the legal status of the American Medical Association.

In the *Journal*, November 22, there is an editorial and also an article signed by the chairman and secretary of the board of trustees, both articles entitled "The Alleged Decision Against the American Medical Association."

We have no fight with the American Medical Association—in fact, we think that every member of the American Medical Association owns a

small portion, jointly with other members of that Association, and is, therefore, vitally interested in matters that relate to that society.

We maintain that, in right and justice, each member is entitled to know the affairs of the society. If the transactions of the society have been carried on illegally,—and it does look as if such were the case—why should not every member of the Society know it? If there was any question raised by anyone—member or non-member—as to whether or not the transactions of the society were legal actions, why should not the officers of the American Medical Association be the first to investigate if, through error or otherwise, the Association was breaking any of the laws of Illinois? They should be the first to know, and it should be their duty to ascertain such facts—not only to ascertain such facts, but also to publish them, so that each member might know.

The court, in its decision, took some pains to analyze the cause of this suit, and showed clearly that it is a question of vital interest to the society. The trustees should have had this decision published in the *Journal*, and they should accelerate in any way they may a decision by the Supreme Court.

ARE AUTOMOBILE REGISTRATION LAWS VALID?

The Ohio State Automobile Association is waging a fight truly national in character in which it is aimed to restrain the secretary of state of Ohio from collecting registration taxes on motor cars, and victory has come to its initial efforts in that a Franklin county judge of the state has decided that the present high rate of registration in Ohio is illegal and really constitutes double taxation. The judge in reaching this decision does so on the ground that the present Ohio registration rate not only provides enough money to defray the cost of registration but also sufficient money to be used in road construction and maintenance. He further is correct in holding that moneys for road construction must come from a common tax and not a special registration tax. In that motor car owners in Ohio pay a personal property tax it is *prima facie* evidence that they are burdened with the double-taxation load against which they are protesting.

This initial victory demonstrates that the in-

justices of certain abnormal motor car registration fees is at least filtering into the ears of the judiciary. Should this Ohio county decision be sustained in the supreme court of the state it will stand as a sufficient precedent in the legal world to cause motorists in every other state where high registration fees and personal property taxes are imposed to get busy and see what can be accomplished.

It has been a general under-current of conviction that states have not any right to charge registration fees in excess of the cost of the department, and New York and a few other states made an agreement with the legislature that where a nominal registration fee is imposed it has been in lieu of personal property tax. These states have a much lower registration fee than some other states in which the motorist pays a personal property tax, and pays a wheel tax for the use of the highway in addition to the registration fee. In such states the warfare against illegal double taxation should be taken up with renewed effort. Give Ohio assistance and if the supreme court in Ohio backs up the movement there is a fighting chance that better justice will be meted out in other states in the immediate future.

This decision is of vital importance to every physician, for the profession is now suffering from over-taxation.

PUBLIC HEALTH INSTRUCTION: SUPPLY AND DEMAND.

For the past twenty-five years qualifications in public health have been required of medical officers of health to population of 50,000 or over in Great Britain.¹ This has led to a gradual increase in the institutions offering such instruction until at the present time seventeen universities and three examining boards in the United Kingdom offer such degrees at M. D. in State Medicine, Bachelor and Doctor of Science in Hygiene, Bachelor and Doctor in Hygiene and diplomas in public health.²

The requirements for these degrees have varied with the advance of knowledge in the field of preventive medicine, the tendency being to in-

crease the requirements in practical experience in the details of administration and the enforcement of sanitary rules and regulations. The General Medical Council requires that graduates shall attend at least a nine months' curriculum: laboratory instruction shall cover at least four months: six months' practical study of details of administration under medical officers of health of large jurisdiction: or that the applicant himself shall have had three years' experience as a medical officer of health of a population of 15,000 or over. He must also attend a hospital for infectious diseases for three months. Finally, he must submit to an examination covering four days.

Medical literature on public health, school medical inspection and allied branches, especially that in the English journals, shows the almost universal D. P. H. qualification among English health officials. The reason, both for the number of courses offered and the large number of students, lies, of course, in the *requirement by the appointive power* of such qualification.

How does this compare with the attitude of American officials charged with the appointment of public health administrators? The question answers itself. We cannot admit that the ideals in American public health work are lower than in England, but there is a great difference, and politics too often "rules the roost." The greatly increased diffusion of popular information on the elements of preventive medicine in recent years here has increased the demand that contagious diseases should be controlled, that water and milk supplies should be made safe, and latterly that even the supply of defectives and criminals should be arrested at the source. Much excellent work has been done by American health officers. But the fact remains that there is no demand for competent full time health officers except in a few of our largest cities when measured by the financial returns offered. As the truth that money spent in prevention of disease pays fabulous returns gets under the hide of the public more and more communities will insist on competence rather than expediency in the appointment of public health officers, and naturally the pay will have to attract the right kind of men.

There is not much to say about courses in pub-

1. Local Government Act, England and Wales, 1888.

2. Public Health, London, September, 1913, page 349.

lic health instruction in this country. The University of Pennsylvania offered a course for certified sanitarians in 1906 to anyone competent to pursue the course, not necessarily medical graduates. In 1909 it amplified its course and gave the degree of Doctor of Public Hygiene to physicians after studies covering one college year. Thirteen persons have completed the course.

The University of Michigan has offered the degree of Master of Science of Public Health for a course covering one year and the degree of Doctor of Public Health for a course covering two years. To enter either course the applicant must possess the degree of B. S. or A. B. and M. D. Although these courses have been offered for the past three years no one has completed the course and the requirement of the bachelor's degree may soon be omitted.

Harvard University has offered the degree of Doctor of Public Health the past three years and this year Harvard and the Massachusetts Institute of Technology, combined, offer the Certificate of Public Health to medical graduates and Bachelors of Science in Biology for an elective year course in both institutions, the course to be approved by the Administrative Board in each case.

The University of Wisconsin, in connection with the State Department of Public Health, offers a one-year course leading to a diploma of public health. This is open to those who hold a degree in medicine or in medical or sanitary science. The university also offers a two years course with the degree of Dr. P. H. The second year must be spent at the university in original research leading to a thesis. Only one person has obtained the degree to date.

The Detroit College of Medicine and Surgery offers a one-year course to medical graduates leading to the degree of Master of Public Health.

The University of Minnesota will probably offer a six weeks' course next summer for health officers. This seems to cover the field in public health instruction except such partial courses in several medical colleges as are given in the regular medical course and such practical instruction as that in the so-called "School of Sanitary Instruction" of the Chicago Department of Health.

The few courses offered and the small attendance only emphasize the fact that the present

emoluments of health officers in this country are not sufficient to induce men to qualify for such a career.

The experiment of trying a combination health department for several towns located within a few miles of each other, now being tried out in Massachusetts and soon to be installed in three small cities in Illinois, may prove to be applicable to many other groups of towns which separately could not offer sufficient inducements for competent sanitarians.

Thus may the hope of Dr. V. C. Vaughan, Dean of the Department of Medicine and Surgery, University of Michigan, come true:

"The people at large are beginning to realize the great value of preventive medicine, and there are many cities now looking for first-class health officers. It will be a long time before positions of this kind will be wholly divorced from political pull, but I am an optimist and believe that it will come in good time."

Dr. M. J. Rosenau, Director of the School for Health Officers, Harvard University and the Massachusetts Institute of Technology, also is optimistic and writes as follows: "It seems to me that there is a demand for this kind of education, and although politics now rules the roost, I think matters are going to mend and efficiency will sooner or later be the rule in health organizations."

SURGERY BEFORE CHRIST.

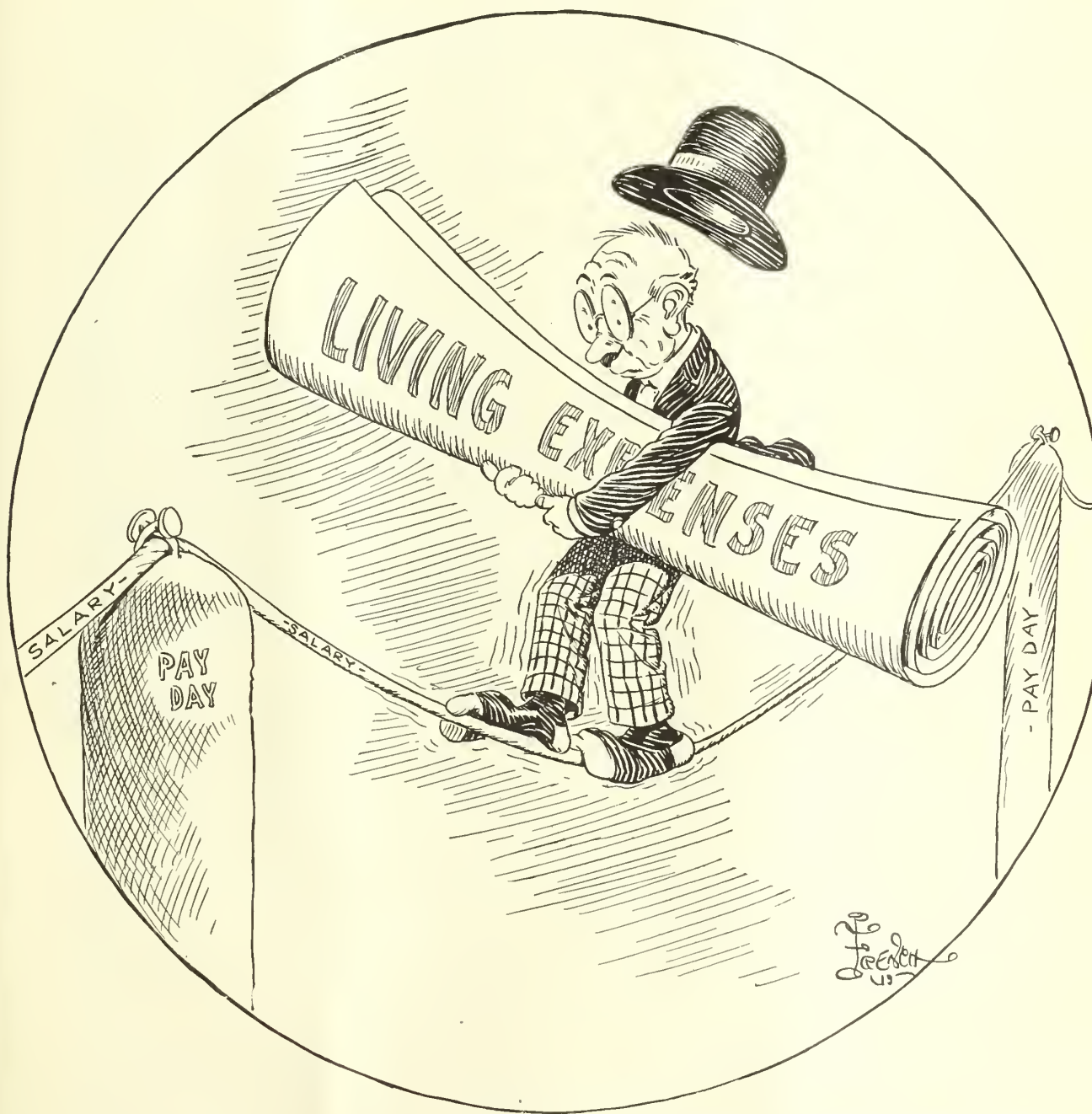
There is strong evidence that the practice of surgery has existed from very ancient times, and it is interesting to note that so complex and delicate an operation as trephining is one of the oldest.

The actual records show that Hippocrates wrote treatises on fractures, dislocations and wounds of the head, in which he described the method of procedure to be followed in the case of a fractured skull. His method was to cut away a piece of bone so that the pressure on the brain might be relieved, says the *London Standard*.

Dr. T. Rice Holmes states that the operation of removing pieces of bone was performed long before historic times. The effects on the skull are plainly seen after death and are visible so long as the bones are preserved.

From Dr. Holmes' investigation of certain

ANXIOUS MOMENTS



Courtesy of the Chicago Record Herald

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skulls of the later stone age in ancient Britain, he has come to the conclusion that some of these had undergone the operation, which must have been performed with a stone instrument.

NOTEWORTHY CLINICAL EXHIBITS.

Delegates to the Clinical Congress of Surgeons held in Chicago during the week of November 10-15, had an unusual opportunity of viewing one of the most novel exhibits of surgical, hospital, and nurses' supplies.

The striking feature of the exhibit—apart from its remarkable completeness—was, that each department was displayed in a pure-white enamel steel case, with plate-glass sides and doors. The Nile-green inscription (green is the Truax-Greene color) which each cabinet bore, called attention to the fact—which the faculty are not forgetting—that this company was established thirty-seven years ago.

From conversation with Mr. B. H. Coddington, the president, we are led to believe that the surgeon-visitors to Chicago showed tangibly their appreciation of the efforts this long-established house made to place at their disposal facilities for serving them.

ARMY MEDICAL CORPS EXAMINATIONS.

The Surgeon-General of the Army announces that preliminary examinations for appointment of First Lieutenants in the Army Medical Corps will be held on January 19, 1914, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C."

Applications must be completed and in possession of the Adjutant-General at least three weeks before the date of examination. There are at present twenty-six vacancies in the Medical Corps of the Army.

TO THE SECRETARIES OF THE COUNTY MEDICAL SOCIETIES.

In July of the present year, the same as last year, a campaign was started to increase the membership of the State Society. An increase of about 1,200 would make Illinois the largest State Medical Society in the United States.

The membership and non-membership records of the State Secretary were in a somewhat chaotic condition, due to the fact that there is so much moving of physicians from one county to another, as evidenced by the mailing list of the State Society, which shows an average change of address of about fifty a month; names of many physicians appearing in one county as non-members who, perhaps, hold membership in the State Society in another county.

The first letter sent out brought out the following facts: there were 917 names on the record book without mark or notation of any sort; 669 of the number mentioned were not getting the JOURNAL, and 248 were receiving the JOURNAL but had paid no dues since 1911.

In justice to the members who pay their dues promptly, these names had to be taken off the mailing list. In several counties there were found a number who had paid their per capita tax but through some oversight had not been given credit. One entire county was dropped, due to the loss in the mails of a check sent to the former Secretary for the dues of 1912.

The replies received from this letter enabled the State Secretary in a large measure to straighten out his records, and to send the JOURNAL where members were entitled to, yet had not been receiving it, and, in instances, to discontinue it where physicians not entitled to it were on the mailing list.

Another communication was sent with the idea of soliciting new members. In addressing so large a list it was impossible to avoid errors. A few, already members, received this letter, but no larger number than would be expected under the circumstances. Also, a few men not eligible to membership were unknowingly solicited; it being impossible to avoid this because of the committee members' unfamiliarity with all the physicians of the State. On the other hand it was realized that, should errors occur, the County Society has the option of accepting or rejecting whomsoever it pleases.

A campaign of education of the profession, such as has been carried on in Illinois for the last two years, cannot help but be of everlasting benefit, as it brings the members of the profession in touch with each other and established a familiarity of the physicians with conditions that are of mutual interest. It helps to impress upon

the profession more vividly than in any other way the old motto: "In union there is strength."

Correspondence

COLLEGE OF SURGEONS. WHAT? WHO? WHY?

15 E. Washington Street, Chicago, Nov. 22, 1913.

To the Editor:—A charter for the so-called College of Surgeons was issued at Springfield, Illinois, in 1912, to Franklin Martin, A. J. Oehsner, and John B. Murphy, all of Chicago. Its stated object is the establishment of a standard of minimum requirements for the practice of surgery, etc.

An alleged statement by its secretary, Franklin Martin, appeared in the *Chicago Sunday Examiner* of November 16 to the effect that much legalized murder was being done by incompetent surgeons, which was to cease with the coming of this so-called college. We conclude from this that there must be a crying need for reforms in surgery, or else the statement itself is a base libel upon fact, and the man making it worthy of summary justice at the hands of organized medicine for thus degrading the reputation of his fellows in the public press.

The men behind this "College" have, through the plan of organization, published in its prospectus, plainly assumed the position of censors of their professional brethren, though without other authority than that which any self-appointed self-seeking coterie may assume. And since considerable publicity has been given this movement, and surgeons have been widely invited to buy a fellowship in this "College" for \$25.00 and give it their moral support, it is well to examine the personnel of its charter members, the manner of organization, the apparent motives of its founders, and probe the question, whether such an institution is needed.

It is germane to scrutinize the individuals responsible for this or any other proposition which the public is asked to support.

The highly ethical methods of business-getting for which these three gentlemen are known are fully appreciated by their confreres. The point is, are they the ones best fitted to establish standards, formulate rules of conduct, pass upon their fellows and control surgical practice in America?

Are their names synonymous with public spirit, unselfish devotion to the welfare of the profession? Are they noted for never splitting fees, nor stealing cases from brother practitioners, nor cutting the prices of operation quoted to a patient by a confrere, nor courting newspaper publicity? These are plain and important questions, for the three gentlemen under consideration practically own that charter, and hold the balance of power in the board of trustees, which are to govern and determine the future policy of the "College." In a corporation, not for profit, such perpetuated control is to be expected.

As to the plan of organization, a grievous mistake was made by the originators, as admitted by the secretary, Franklin Martin, for, according to the prospectus of the "College," upon motion of Franklin Martin himself, members are admitted to fellowship upon the basis of alphabetical classification, A, B, C and D. This has been sufficiently criticized elsewhere. The profession of this continent needs no royal college of surgeons; if the men who are attempting to found this one, desire to put themselves under a special glass case, hoping thereby to attract to themselves surgical practice, they should not forget that the distinctive label which they buy will serve as well to point out to the profession under which hat walks the surgical snob. Many omnibus declarations have been made of late with regard to the vast amount of poor surgery being done, statements such as Franklin Martin's, referred to. Whence do they come? That there is no poor operating with poor diagnosis, poor judgment, poor technique, and poor results, no one would claim any more than that there are no men practicing pediatrics, or dermatology, or internal medicine, who are inadequately prepared and by nature meagerly endowed for their work. But that a horde of incompetent surgeons are each year turned loose to kill and maim and rob the people, vast numbers of whom are being sacrificed to "legalized murder," is not even remotely true. Let them who imply it bring us the proof.

Granted that there are some incompetents in the profession, granted that there are occasionally those to be found who are more to be feared for their unlicensed boldness than trusted for their skill, experience, and conscience; granted that there are both crooks and

ignoramuses among surgeons, yet, they are in hopeless minority, and their total work is minimal, as compared with the immense amount of skilful surgery that is being performed, not alone in the great hospitals by the limelight performers, but by a vast number of modest operators all over the country; with the result that American surgery is upon a high plane of efficiency. Let him who would dispute this bring forward comparative data of operative results, and reliable mortality statistics from many surgeons and many operating rooms.

The morally unfit, and the technically unfit in surgery are gradually discovered and automatically eliminated by the referring practitioner and the patronizing laity, more surely and more speedily than by legislation. Who then is responsible for this hue and cry about the awful sacrifice of the public to surgical incompetence? It is certainly not the suffering public. The people have demanded no royal college of surgeons, and rest assured that if that public were really being sacrificed or maltreated at the hands of the medical fraternity, it would be heard from in no uncertain fashion.

But "the people have no criterion by which to choose a fit surgeon," yet, somehow, they do find him, and if they need advice in the matter, the general practitioner is always at hand to direct. He knows, and his reputation is at stake whenever he refers a case for operation. And every individual surgeon builds up his following or fails upon the work he is known to deliver satisfactorily or otherwise.

It is certainly not the general practitioner who is making this plea for new surgical requirements. He has entered no protest. To him come the cases needing operation. Upon him is the responsibility of referring the patient, for the operative results will come home to roost with him. This natural selfish interest of the family doctor in keeping his reputation clean and holding the confidence of the patient and the family, as much as anything else, puts the patient into competent surgical hands and so the public is safe-guarded automatically.

If not the general public nor the general practitioner, who then is so noisily demanding new surgical standards, new classification, and new public lists of worthy operators? and lo, to answer, there rises amongst its dwindling clientele

a little coterie of "eminent surgeons," who, a decade or more ago, were the hubs of surgical reference cases, and of all things surgical. But this clamor for surgical reform of these leaders, many of them professors, heads of departments in our medical colleges, and post-graduate schools, is a bit incongruous, is it not? They suddenly want their students restricted in the use of the knife, and yet have they not for decades been signing diplomas which certify to the people that their graduates are competent to handle medical and surgical ills? Is it possible that these mentors have thus been committing a fraud upon the public? On the contrary, so thorough has been their teaching, so fine the modern clinical advantages, so abundant and explicit the literature, so open the doors of hospitals, dispensaries, and private clinics, that an army of ex-internes and special assistants, and ardent students have gone out with surgical preparedness year after year to build up-to-date hospitals at almost every sizable cross roads. To these young, alert, ambitious operators, therefore, are trooping the patients who formerly were sent to the great centers, and they are in safe hands. But here, sir, you have the milk of the cocoanut—in other words, these fellows attempt to put over upon the American profession a raw deal—the "College of Surgeons" for control of surgical honor, title, place, opportunity, and patients, by exhibition of their class A label in contrast with the near-title given everybody else. Under guise of elevating surgery they simply reach for economic power—in plain English, they want the business.

Some unthinking surgeons, dazzled by the display of red fire and confused by the discharge of blank cartridges, have been actually stampeded into joining this college at its recent inauguration in Chicago, fearing lest they might otherwise lose out. A good many more, who had been almost persuaded, received enlightenment in time, and wisely withheld their applications. Some one is to be congratulated.

ARTHUR M. CORWIN.

THE A. M. A. FOX COMES OUT OF HIS HOLE.

Chicago, Ill., Nov. 28, 1913.

The most uncompromising antagonist of the ring that dominates the A. M. A. must admire

the cunning with which it has avoided all reference in the *Journal A. M. A.* to the reform suggestions which I have publicly made year after year, for five years past.

The reforms suggested menaced the integrity of the politico-commercial machine which the rank and file of the membership is supporting at the rate of nearly \$300,000 per year.

The reforms also menaced the business interests of the politico-commercial gang which is running a "corporation not for profit" with A BUSINESS OF ABOUT \$1,000,000 PER YEAR.

Who could blame the ring for remaining silent and thereby keeping the leather goggles on the eyes of the members, who own the *Journal* yet enjoy it not? Self-defense is the first law of nature—and "self" is writ large on the mental horizons of the A. M. A. ring.

But the recent decision of the Cook County Appellate Court smoked the wily fox out of his hole and he has at last pretended to take his victims into his confidence.

In the *Journal A. M. A.* for Nov. 22, 1913, appears a letter signed by Drs. Wm. T. Councilman, chairman of the trustees of the A. M. A. and M. L. Harris, secretary of the board of trustees, in which the membership is told that the recent decision of the Appellate Court merely affects Dr. Lydston and the State's Attorney, and is of no interest to the A. M. A. The trustee further states that the legal status of the A. M. A. has never been in doubt, etc., etc., and this mess of sophistry, evasion and deceit, appears over the signatures of the two principal trustees of the A. M. A.!

Drs. Councilman and Harris, of course, represent the board of trustees and their communication is advised and official. Now the aforesaid trustees either know the facts or they do not. If they know them they have deliberately falsified. If they do not know them they are incompetents who should forthwith be sent to the imbecile ward at Dunning.

That the writers of the *Journal* letter are ignorant of the difference between quo warranto and mandamus proceedings is evident on reading their effusion.

The least charitable inference that can be drawn from the trustees' letter is that it was dictated by the Manager-Boss and obediently

signed by the trustees. Can it be true that even the trustees listen to the "master's voice"?

In passing I will ask why the *Journal* did not publish the entire court decision. This would have shown conclusively whether or not the A. M. A. was affected by it. The complete text appears in the current issue of the *Journal* of the American Medical Editors Association, with a request that the medical press reproduce it! Is not the *Journal* of the A. M. A. as much interested in the decision as are the independent medical press and its readers?

It is *currently* reported that "orders" have been issued from 535 N. Dearborn Street to the various State journals not to mention the Appellate Court decision. This was hardly necessary, for with few exceptions the State journals are well trained—*so well trained that they "roll over and play dead" automatically.*

Now the fact is that the suit was contested by lawyers employed by either the Manager-Boss on his own account, or by the trustees of the A. M. A. Whether the boss paid the expenses or the A. M. A. footed the bills deponent saith not.

Right at this moment the gang is framing up a scheme of reorganization, to forestall the action of the Supreme Court in case it should be adverse to the gang. In this scheme of reorganization the "proxy" vote will loom large. Let the membership beware of this. When reorganization comes let oil be poured on the troubled waters of medical politics, but let it not be Standard Oil.

One knowing the facts might well inquire whether the trustees of the A. M. A. are as intelligent and ingenuous as the letter in the *Journal* would imply.

I will here reiterate what I have often before said, viz.: It really is a matter of indifference to me whether or not the Supreme Court sustains the lower court. IF THE ASSOCIATION'S OPERATIONS ARE LEGAL, WELL AND GOOD; IF THEY ARE NOT, LET US MAKE THEM LEGAL.

The Appellate Court by its decision has shown that I had just grounds for an inquiry into the matter, and that is sufficient vindication for one who, after all, was merely trying to get in the courts a hearing to which as member of the A. M. A. he was justly entitled—and which honest officials would have been glad to grant

without contest. The issue is one which should be settled in justice to the members.

In conclusion, and apropos of the official statement by Drs. Councilman and Harris, which in effect is that the A. M. A. is not interested in the decision, the membership of the A. M. A. should remember that the Appellate Court has decided:

FIRST. THAT OUR ELECTIONS ARE ILLEGAL!

SECOND. THAT OUR DELEGATE SYSTEM IS ILLEGAL!

THIRD. THAT EVERY MEMBER OF THE A. M. A. IS ENTITLED TO A VOTE!

The officers of the A. M. A. have taken an appeal to the Supreme Court, using the State's Attorney's office as a stalking-horse.

Is not the A. M. A. affected by the decision—and is not the decision of sufficient interest and importance to the members to warrant—aye, demand—its verbatim publication in the *Journal*?

Let the members answer—the officers will not.

Who owns the association, and who owns the *Journal*? Whose money is supporting the A. M. A.? What are the officers—our masters or our servants?

J. FRANK LYDSTON, M. D.

ARTICLES TOO LONG.

Greenville, Ill.

To the Editor: My reasons for not taking the *Journal A. M. A.* are:

1. It has too many long-winded articles.
2. Only the select few have any rights and they are surgeons or specialists in some branch of medicine or surgery who overlook the needs of the majority in preparing their articles.
3. It is not worth the price asked. There are dozens of other medical journals just as good, and some of them better, for less money.
4. The reforms the *JOURNAL* promise are soon forgotten and the physicians are left to fight out their own battles locally.

5. I take a number of medical journals, including the *ILLINOIS MEDICAL JOURNAL*. It's getting to be like the *Journal A. M. A.*, inasmuch as its pages are filled with long-winded articles that only about 25 per cent. of the physicians read, instead of short, practical articles which physicians can apply in the every day routine of general practice. A recent number of the

ILLINOIS MEDICAL JOURNAL contained one article covering 14 pages. If we want to read a book, we'll buy one. Most physicians haven't the time or inclination to read 14 pages on one subject in a medical journal. Physicians, am I right? If so, back me up, either personally or through the columns of the *JOURNAL*.

O. C. CHURCH, M. D.

(The editors feel that there is much truth in this criticism and appeal to the contributors to follow this suggestion.)

TWO EX-PRESIDENTS DIE.

Champaign, Ill.

To the Editor:—Dr. W. K. Newcomb died of pneumonia at his home in this city at 3 a. m., November 25, 1913, regretted by professional brethren and laymen alike.

Last week Dr. John T. McAnally was buried at his home in Carbondale. These men were near the same age, their histories were not dissimilar, they were much alike in appearance and it is a singular coincidence that they should have passed from earth at near the same time. Both were near the same stature and were very similar in thought and manner.

Both were men of comparatively few words and those they weighed carefully before giving them utterance. Both were courteous gentlemen and both were exemplary citizens.

Both were hard workers in their chosen calling and both had been honored with the presidency of the Illinois State Medical Society. Both are regretted by many medical friends throughout the length and breadth of the State of Illinois.

CHAS. B. JOHNSON, M.D.

MILK DROPLETS.

A cow-fed baby is a half-mothered baby.

A half-mothered baby is a baby with a half a chance.

The half-mothered city babies get much of their trouble from the country.

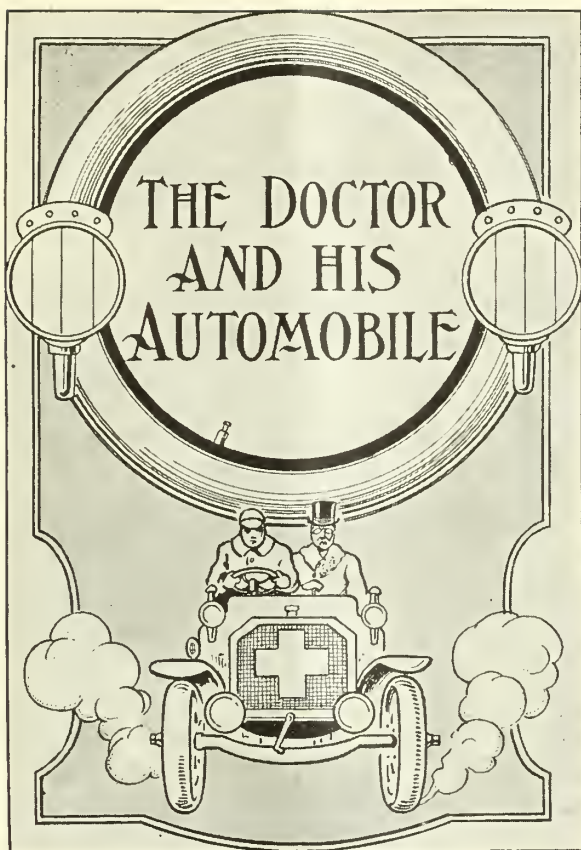
D-i-r-t-y m-i-l-k spells Trouble, with a capital T.

Pasteurization is a means for minimizing trouble.

If there must be cow-fed babies there must be pasteurization.

Know how to kill the trouble in milk. See the instructions for pasteurizing milk in this issue.

—From the *Bulletin*, Chicago Department of Health.



Auto Sparks and Kicks

COLD WEATHER HINTS.

RADIATOR ANTI-FREEZE MIXTURES

A mixture of 30 per cent. to 40 per cent. of volume of denatured or wood alcohol with water will freeze from 10 to 20 degrees below zero, fahrenheit.

The mixtures given below are safe for stationary engines or motor cars, and are not expensive. Either denatured alcohol or wood alcohol may be used with commercial glycerine. The preparations given will make five gallons of solution.

Will not freeze at 15 degrees above zero:

Water	4	gallons
Alcohol	$\frac{1}{2}$	gallon
Glycerine	$\frac{1}{2}$	gallon

Will not freeze at 8 degrees above zero:

Water	$3\frac{3}{4}$	gallons
Alcohol	5	pints
Glycerine	5	pints

Will not freeze at 10 degrees below zero:

Water	3	gallons	1	pint
Alcohol	1	gallon	1	quart
Glycerine	2	quarts	1	pint

Will not freeze at 20 degrees below zero:

Water	1	gallon	1	quart
Alcohol	2	gallons	2	quarts
Glycerine	1	gallon	1	quart

The other cold weather precaution that should not be neglected is to make sure that the motor will get plenty of lubricating oil. Oil becomes thicker when it gets cold and will not feed through the pipes as rapidly as when it is warm.—*Motor Age*.

ALCOHOL AS A CARBON REMOVER.

A test conducted recently by Joseph A. Anglada, chairman metropolitan section Society of Automobile Engineers, showed the following results: 1. That denatured alcohol is an efficient decarbonizer for motor car engines. 2. That it does not injuriously affect the surfaces of the metals with which it comes in contact. 3. The best results from the use of denatured alcohol as a decarbonizer are obtained when the combustion space of a hot engine is filled entirely with the alcohol and this permitted to remain in the space for a period not less than six hours. 4. Denatured alcohol will act as a carbon remover when the engine is cold provided the liquid alcohol is in contact with the carbon covered surfaces. However, the action in this case is not as rapid as if the engine were hot.—*Motor Age*.

For easy starting in cold weather prime engine with wool or denatured alcohol, or better still, use a small amount of ether.

Be sure the spark plugs are screwed tightly into cylinders. Make sure that the connections of the plugs are secure and won't jar loose.

Occasionally, when an engine give symptoms of coming to a halt because of a shortage of fuel, it can be induced to fire long enough to reach a supply station by violently jouncing the car on its springs, the theory being that a small quantity of fuel may remain in one part of the tank lower than the outlet to the carburetor. This is particularly true of force feed systems, where the outlet projects for some little distance up from the bottom of the tank.

WIRE WHEELS VERSUS WOODEN WHEELS.

P. C. Vawter of the Chicago Pathfinder branch is a strong advocate of wire wheels. He points out, as indicating the popularity of wire wheels that of the 394 cars exhibited at the recent Brussels salon no less than 217 were thus equipped.

The following advantages are claimed for wire wheels:

- Increase tire mileage about 50 per cent.
- Safeguard your life in case of accident.
- Increase your car life.
- Make an easier riding car.
- Make an easier steering car.
- Make a better looking car.
- Increase your mileage per gallon of fuel.
- Disadvantages so far noted:
- Harder to clean.

STARTING THE MOTOR.

Where a motor has stood unworked for a long time, the turning over of it frequently happens to be difficult and there is little or no compression. Injecting gasoline into the cylinders by means of the compression tap or the spark plug orifice may aggravate the evil by drying up what little oil remains on the walls. Try priming with one-half lubricating oil and one-half kerosene. A thin engine oil will flow between and around the piston rings and give good compression at once. It will disperse the old oil or liquify it and render it useful. With good compression, good suction will result and the engine will start quickly.—*Auto Trade Journal*.

BENZOL AS FUEL.

One of the possible motor car fuels of the future is benzine, or benzol (C_6H_6). Benzol is usually known as an impure benzine or unrefined benzine. In England, where the price of gasoline is from 38 to 50 cents per gallon, benzol is being used to a limited extent. This has the advantage that it is not as difficult to vaporize as kerosene, is more stable than gasoline and gives even more power owing to its greater heat units. It can be used in automobile engines without their being altered. It is not quite as volatile as gasoline, but is sufficiently so that a motor can be started with it using carburetors of ordinary design. If properly refined it does not carbonize to any greater extent than gasoline when combined with

air in the proper proportions. At the present time the market price of benzol in the United States is from 22 to 25 cents per gallon in 50-gallon lots. This eliminates it for the present as a competitor of gasoline. However, if the price of gasoline goes much above 25 cents benzol may enter the field.

PNEUMATIC TIRE DEFLATION ALARM.

When the air pressure in a tire fitted with the Polo alarm drops to a point where it will injure the tire, a loud, shrill whistle is given off, it is claimed by the maker, the Polo Pneumatic Alarm Mfg. Co., Clear Lake, S. D. The alarm supplants the dust cap of the ordinary tire valve.

A MONEY SAVER FOR THE AUTOMOBILE OWNER.

The greatest damage to tires is caused by the neglect of stone and glass cuts in the casings. Sand, dirt and water are forced into these cuts; sand-pockets form. Next, the fabric—the backbone of the tire—rots, and the tube blows out through the weakened spot. Result; a whole lot of unnecessary trouble and expense.

You will make one tire outwear three if you fill the cuts and gashes with new, live Para Rubber, and vulcanize them with a Shaler.

TO KEEP RAIN AND SNOW FROM ADHERING TO WINDSHIELD.

Common yellow soap is good for keeping the front of a windshield free from drops of water when driving in the rain or snow. The glass should be rubbed with the soap and then polished with a dry cloth.

—Various theories have been advanced to explain low death rates of married persons of both sexes, among them the effect of marital selection, the better economic condition of married persons, and the effect of the marital relation itself. Dr. Jacques Bertillon, coming to the subject from the study of occupational mortality, in which he reaches the conclusion that low death rates are found in occupations where the workman is more or less supervised, surrounded by influences tending to prevent dissipation and conducive to regular hours and regular habits, etc., thinks that much the same influence may be ascribed to marriage and family life. Because the married man is supervised and because he has incentives to self-restraint and to the care of his health, he has a lower mortality than the bachelor. Perhaps all of these are factors in the problem, but our statistics cannot at present weigh the importance of each.—*Walter F. Wilcox, in Bulletin New York State Board of Health*.

Society Proceedings

CARROLL COUNTY.

The Carroll County Medical Society met in Mt. Carroll, October 14, 1913. The following officers were elected for 1914: President, Nelson Rhine-dollar; vice-president, O. F. May; secretary and treasurer, H. S. Metcalf. The program was as follows:

Morning session: Dr. Hendricks read a paper on "Hip Tuberculosis in Childhood," Dr. McPherson rendered a report on the meeting of the Illinois Medical Society.

Afternoon session: Dr. Metcalf presented a "Review of a Great Sociological Play." This paper was discussed by Rev. W. J. Peacock, Rev. E. G. Cattermole, Drs. Johnson, Rice and Packard, Judge Wingert and Henry Mackay, Esq. Mr. Daniel Lichty of Rockford then presented a paper on "Study, Care and Treatment of the Child's and Adolescent's Heart."

The subject of Dr. Metcalf's review was Brieux's great play, "Damaged Goods," which is a study of syphilis and its bearing on marriage. It is a story as terrible as the tragedy of Sophocles. In closing he said: "Were I the publisher of it I would present on the title page the portrait of a congenital syphilitic, a creature half man, half beast, whom the Lord permitted to live a long time in Mt. Carroll and I would decorate the margins of the pages with pictures of sore, deformed and idiotic babies."

Rev. Peacock said: "The physician in the play speaks with tremendous authority. He speaks as every physician ought to feel as a servant of humanity, charged by his very intimacy with human nature with a duty to society."

Rev. Cattermole said no more vital subject could present itself to a public teacher of morals and religion than the subject of this play. The matter received its full consideration only when, in meetings like this, the medical profession and the teacher of morals and religion plan together the work that must be done. He believes that sex instruction can and should be given both by parents, teachers and physicians, each being able to impress the facts upon the mind of the youth from a particular angle. The day must come when in every high school and college lectures will be given separately to the boys and girls on the anatomy, physiology and hygienics of the sexual organs and no one is half so well qualified to perform this task as the well-informed, right-minded physician.

Dr. Johnson asked what the physician should do when a patient infected with venereal disease is about to marry an innocent woman and thought there should be no doubt as to the line of one's duty.

Drs. Rice and Packard thought the time was coming when acutely diseased syphilitics must be placarded, and when such cases must be reported with other communicable diseases to the boards of health.

Mr. Mackay said that we are proud of our fine

horses, cattle and hogs, made so by careful selection and breeding; that the state of Illinois, not long since, enacted a law requiring the registration of all stallions; that, on the contrary, there was little or no legal restriction against defective persons marrying, with the exception of the law prohibiting the marriage of cousins. To limit the procreation of the unfit he would compel candidates for marriage to submit to an examination by a competent board and he advocated sterilization for those found with hereditary diseases.

Dr. Daniel Lichty noted the interesting nature of the development and adaptation to function of the human heart and circulation. Acquired heart diseases and congenital heart malformations resulting fatally are more frequent than is generally realized. In the United States are 500,000 children in public schools with organic heart disease, and as many more not in school. Food and fatigue, chemical toxins, rather than bacterias, cause the acidoses that increase the viscosity of the blood and blood pressure. As remedies he suggested abstinence, elimination, alkaline drinks, hydrotherapy and gentle massage.

CLARK COUNTY

Society met in the Masonic Building, Martinsville, Oct. 9, 1913, at 2 p. m. President McCullough being absent, Dr. Prewett was elected president pro tempore. Members present: Drs. Lewis, Rowland, S. C. Bradley, R. H. Bradley, Mitchell, Haslitt, Prewett, Pearce, Weir, Marlow, Bruce, Johnson and Rogers. Visitors present: Dr. J. C. R. Wetstein of Effingham, Drs. B. G. R. Williams and Hazen of Paris. Minutes were read and approved.

Dr. Prewett reported a case of hematuria in man aged 75 years, in good health, with no pain, active; passes blood evenings, after working hard. Dr. Wetstein suggested that the causal factors should be first considered whether stone, infection, etc. If no active cause, use adrenalin in pelvis of kidney. No medicine by mouth seemed to do any good. Ergot was suggested by Dr. Bruce.

A case of pancreatic cyst was reported by Drs. Hazen and Prewett. The cyst was removed, containing two quarts of fluid.

Dr. Hazen reported a case of bleeding from vein in bladder, found with enlarged prostate; prostate was removed and case cured.

Dr. Wetstein presented his paper on "Infectious Diseases of the Urinary Tract," which was well received and considered as a thing a little out of the ordinary and furnishing something for us to think about in the near future. That more of our obscure cases should be investigated by laboratory methods, for infection of the urinary organs. That nephritis is probably nearly always caused by infection and that the whole subject of diseases of the kidneys is now being rewritten accordingly.

A limited, though interesting, discussion followed, participated in by several members and visitors.

A vote of thanks was extended Dr. Wetstein for his presence and excellent paper.

L. J. WEIR, Secretary.

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, October 1, 1913.

The program of this meeting consisted in a symposium on "The Teaching of Sex Hygiene in the Public Schools."

1. "The Society of Sex Hygiene," Prof. C. R. Henderson, University of Chicago.
2. "The Boy," William T. Belfield.
3. "The Girl," Rachele S. Yarros.
4. "Practicable Possibilities," Ella Flag Young, superintendent Chicago public schools.
5. "Instruction in the Home," Rev. J. W. Melody.
6. "The Standpoint of the Laity," C. S. Cutting, judge of Probate Court.
7. "Is Sterilization Destined to Become a Social Menace?" G. Frank Ldyston.
8. "Tuberculine Reaction in Fibromyomata of the Uterus," A. Weiner.

The attendance at this meeting was so large that many were unable to enter the hall.

Regular Meeting, October 8, 1913.

A joint clinical meeting with the west side branch at the Cook County Hospital.

1. "Malaria," S. R. Slaymaker.
Discussion by E. F. Wells, Charles L. Mix and Theodore Tieken.
2. "Typhoid Fever," William Butler.
Discussion by J. B. Herrick and J. Miller.

Regular Meeting, October 15, 1913.

1. "Obstetrics in General Practice," Fred Hollenbeck.

Discussion by W. A. Dorland, H. M. Stowe and C. S. Bacon.

2. "Injury to Pelvic Outlet Following Labor or Any Other Cause—Should Immediate Repair Be Made?" H. Edward Sauer.

Discussion by Henry F. Lewis, C. Culbertson and A. Goldspohn.

3. "Demonstration of a Patient with Recurrent Carcinoma of the Breast, Treated by Injections of Quinine Bisulphate, Which Are Made Radioactive by Means of Roentgen Rays After Injection," Max Reichmann.

Discussion by Noble Eberhard and Isidore Trostler.

Regular Meeting, October 22, 1913.

A joint clinical meeting with the south side branch.

1. "Presentation of Cases: (a) Trichinosis; (b) Typhoid Fever, with Complications," Paul Chester.
2. "Presentation of Cases: Fractures of the Long Bones at and Near Joints," J. B. Murphy.
Discussion by William Hessert and G. W. Green.
3. "Presentation of Case: Inguinal Hernia." Operation during meeting. E. Willis Andrews.

Discussion by A. Zimmerman and T. A. Davis.

4. "Presentation of Cases: (a) Spinal Cord Lesions; (b) Gastric Ulcer; Duodenal Ulcer; Gall Bladder Disease," Charles L. Mix.

Discussion by L. H. Mettler and Frederick Tice.

Regular Meeting, October 29, 1913.

Joint meeting with the German Medical Society.

1. "Pyophobia," C. A. Parker.
2. "Hyperacidity of the Stomach," Prof. A. Schmidt, Halle, Germany.

Discussion by B. W. Sippy, J. A. Robison, Milton Mack, Emil Ries and A. E. Halstead.

Regular Meeting, November 5, 1913.

This was a public safety night.

1. "The Public Burden of the Insecurity of Life," Graham Taylor.
2. "Safety First," Peter M. Hoffman, coroner.
3. "Suicide," F. A. Jefferson.
4. "Tetanus," D. N. Eisendrath.
5. "Hemorrhage, Concussion and Shock," J. D. Robertson.

Regular Meeting, November 12, 1913.

1. "Relations of and the Lesions Produced by Various Forms of Streptococci with Special Reference to Arthritis," E. C. Rosenow.
2. "Clinical Aspects and Medical Management of Arthritis Deformans," Frank Billings.
3. Etiology of Biliary Tract Infections and Their Relations to Duodenal Ulcer and Appendicitis," Charles L. Mix.
4. "Surgery of These Lesions," John B. Murphy.

CRAWFORD COUNTY

Crawford County Medical Society met in regular session at the Carnegie Library, November 14, 1913. In the absence of the president, the meeting was called to order by the vice-president, Dr. I. L. Firebaugh, at 2:00 o'clock p. m., the following members being present: I. L. Firebaugh, T. N. Rafferty, C. E. Price, H. N. Rafferty, J. W. Carlisle, G. H. Henry, J. B. Cato, A. Lyman Lowe, Charles E. Davis and Leroy Newlin.

The minutes of the September meeting were read and approved. On motion of C. E. Price, duly seconded and carried, the name of Dr. G. F. Schmidt was dropped from the Society.

Dr. Charles E. Davis read a paper on "Serum Therapy," which was well received and fully discussed by the different members present. Among the different points brought out was the fact that serum therapy was a very important factor in the treatment of many diseases; also that in its employment the physician should have well in mind the condition of the patient in connection with the purpose for which it is being employed and should understand the difference between vaccine and serum therapy, keep abreast with the times and watch its development and not be entirely guided by the manufacturing chemists who make these

preparations to sell. Dr. Davis closed the discussion.

Dr. J. W. Carlisle reported an interesting case and efficient treatment of "perincal abscess" following some twenty days after a normal labor, and after the patient had apparently made a good recovery. The report of the case brought out an interesting discussion and some valuable points in connection with such cases.

Dr. G. H. Henry mentioned an interesting case of enlarged glands in a child two years old which simulated a diphtheritic condition minus the characteristic throat symptoms which usually accompany diphtheria.

On motion the Society adjourned to again convene in January.

LEROY NEWLIN, Secretary.

FULTON COUNTY.

The sixteenth annual meeting of the Fulton County Medical Society met in the auditorium of the Y. M. C. A. building in Canton, Oct. 7, 1913, and was called to order at 10 a. m. by President Snively. Minutes of the July meeting were read and approved. Drs. Hayes and Parks were appointed as auditing committee. Dr. Chapin being the only member of the membership committee present, the president appointed Drs. Adams and Stoops as members of that committee to act at this meeting.

Applications for membership from Drs. M. H. Whitlock and J. R. Smith, both of Canton, and for reinstatement from Drs. T. R. Plumer and William Plumer of Farmington were read and referred to the membership committee.

Chapin and Reagan moved that the rules be suspended and that the membership committee report on all applications at this meeting and that a vote be taken on such applications. Carried.

Auditing committee reported that they had examined the books of the secretary-treasurer and found them correct. Report adopted.

The membership committee reported favorably on the applications of Drs. Smith and Whitlock; also reinstatement of Drs. Plumer. Report adopted.

Drs. Chapin and Nelson moved that the secretary cast the vote of those present in favor of the applicants. Carried.

Secretary cast ten votes and the president declared Drs. Smith, Whitlock and Plumer elected to membership.

The following officers were then elected: President, Dr. I. L. Beatty, Fairview; first vice-president, Dr. C. E. Howard, Lewistown; second vice-president, Dr. L. R. Chapin, Canton; secretary-treasurer, Dr. D. S. Ray, Cuba; necrologist, Dr. P. H. Stoops, Ipava; membership committee, Dr. R. W. Reagan, Canton; censor, Dr. Jennie Parks, Cuba; delegate, Dr. P. H. Stoops, Ipava; public health and education, Dr. C. D. Snively, Ipava; legislative committee, Dr. L. R. Chapin, Canton.

Adjourned until 1:30 p. m.

Called to order by President Snively at 1:30 p. m.

Dr. D. D. Kirby of Peoria read a paper on "Facts and Fallacies in the Treatment of Gonorrhea in the Male."

Dr. W. B. Wakefield of Peoria read a paper on "Occupational Skin Diseases."

These papers were discussed and the meeting adjourned to the Variety Theater, where Dr. Carl E. Black of Jacksonville gave a paper with lantern demonstrations on "Displacement of the Colon." At the conclusion of Dr. Black's paper adjournment was taken and the members with their lady friends at 5 o'clock met at the Congregational Church and busied themselves with a bountiful feast prepared and served by the ladies of that church. With the tables cleared and Dr. Coleman as toastmaster, the hour was enjoyed by talks from almost all present.

Collections at this meeting totaled \$97.50.

Those present were: Dr. Carl E. Black of Jacksonville; Drs. D. D. Kirby and W. B. Wakefield of Peoria; Drs. Essix, E. E. Davis, Boynton, Welch, C. D. Snively, P. H. Stoops, L. H. Chapin, C. E. Howard, E. W. Reagan, T. C. Hayes, Jennie Parks, J. M. Adams, W. D. Nelson, C. H. Hamilton, C. N. Allison, E. M. Price, J. C. Simmons, T. H. Reagan, M. H. Whitlock, R. P. Grimm, William Plumer, J. R. Harrod, W. E. Shallenberger, P. S. Scholes, Veda C. Murphy, Dr. Turner and D. S. Ray. Total, 32.

Bills for the year audited and approved by the auditing committee and paid by the treasurer, \$218.74.

HENDERSON COUNTY.

A meeting of the Henderson County Medical Society was held at Stronghurst, November 4, 1913. Members present: Drs. I. F. Harter, H. L. Marshall, A. E. Louver, Edwin E. Bond, H. V. Prescott, J. L. Norris, B. L. Ditto and J. P. Riggs. Visitors: Drs. J. F. Percy, C. A. Finley, A. L. Stotts, W. Rose of Galesburg; Smith of Seaton; William Prescott of Dallas City; Evans of Springfield; J. W. Medley of Disco; J. Hoyt Huckins of Terre Haute; Ralph Graham and C. Sherrick of Monmouth; De Witt Loomis of Lomax.

After a sumptuous luncheon was served we proceeded to reading papers. Dr. F. B. Dorsey of Keokuk, Iowa, read a paper on "Indications for Cesarean Operations; Dr. Smith of Seaton read a paper on "Pyelitis;" Dr. A. F. Stotts of Galesburg read a paper on "Intravenous Medication;" Dr. J. F. Percy of Galesburg read a paper on "A Point of View of Nephritis and Its Treatment."

The papers were very interesting and were ably discussed by all present. After the papers and discussion Dr. De Witt Loomis presented his application for membership and was received as a member of this society.

Adjourned to meet at a time to be agreed upon by the president and secretary.

HUGH L. MARSHALL, President.

J. P. RIGGS, Secretary.

MACOUPIN COUNTY

The Macoupin County Medical Society met in regular session in the Masonic Hall at Palmyra, Oct. 28, 1913. Called to order by acting president, J. S. Collins of Carlinville at 1 p. m. Dr. Ben Hudson was appointed secretary pro tempore. Minutes of last session were read and approved. Drs. I. H. Neece, E. W. Crum and W. B. Dalton were appointed censors. Applications of Drs. L. E. Ambrose, Mt. Olive, and J. W. Berryman, Scotville, were received and referred to censors for report at next meeting. Carlinville was selected as next meeting place. Drs. J. S. Collins and R. A. Hankins, both of Carlinville, were selected as essayists for next meeting and the secretary was instructed to secure one more from outside county.

Dr. Orville H. Brown of St. Louis read a paper on "Some Advances in Our Knowledge of Metabolism" (relating especially to nephritis and certain fevers). As title suggests we received some advanced ideas from this paper. Paper was well delivered and thoroughly discussed. Dr. M. McMahon, Palmyra, then read an essay on "The Heart, Its Diseases and Their Treatment." The paper was conceded by all to be a very interesting and valuable contribution. Those present were Drs. O. H. Brown, St. Louis; J. S. Collins, Carlinville; W. B. Dalton, T. D. Doan and J. W. Berryman, Scotville; M. McMahon, Ben Hudson, Wm. L. Powell, E. W. Crum and I. H. Neece, Palmyra.

CHAS. D. KING, Secretary.

MADISON COUNTY

The first medical meeting in the history of New Douglas was held there on the afternoon of Oct. 3, and it was a rouser. It was the largest meeting in point of attendance and one of the very best in point of interest and enthusiasm that was ever held by our society. Doctors from all over the county came by automobiles and street cars, some driving 25 to 40 miles to be present. The day was an ideal autumn day which contributed much to the success of the meeting. The society was handsomely entertained by the two doctors in New Douglas, a good dinner being served to those who came by way of Staunton, and a tasty lunch to all after the close of the meeting. Dr. Elsworth Smith, of St. Louis, was at his best when he delivered his address on "Pneumonia," and held the undivided attention of his hearers for more than an hour, detailing the treatment of this disease down to the present day. He dwelt at length upon the serum and vaccine therapy but his conclusions were that they furnished a valuable aid but were by no means specific. The reading of the paper was followed by an earnest and animated discussion in which a large number of the members joined, making this one of the most valuable meetings this society has held for a long time. A vote of thanks was tendered the speaker and we know he will have a hearty welcome whenever he will consent to address us again. Upon favorable report

by the board of censors, Dr. Uen Harrison, of Collinsville was elected to membership. Dr. George L. Sharp acted as temporary chairman until the arrival of Dr. E. A. Cook, our vice-president.

Those present were: Drs. Burroughs, Oliver, Tulley, J. W. Scott, Harrison, McKinney, Tibbets, Sharp, Schmidt, Fish, Kaeser, Wahl, Ferguson, Collins, Barnsback, Joesting, W. H. C. Smith, Hastings, Taphorn, H. E. Wharff, Robinson, Cook, H. W. Davis, Frank Worden, Schaff, Everett, and E. W. Fiegenbaum. Visitors: Dr. Elsworth Smith of St. Louis, Dr. Uen Harrison of Collinsville, Dr. I. O. Wilcox of Panama, Dr. W. L. Sharp of Slater, Mo., Dr. Robert Allen of Donnelson, Dr. E. A. Everett of Sorento and Dr. Van Meter of Staunton.

—From the Madison County Doctor, November.

McHENRY COUNTY.

REGULAR MEETING SEPT. 17, 1913.

The McHenry County Medical Society met at the city hall in Algonquin, Sept. 17, 1913, with Dr. H. D. Hull, president, in the chair. On account of bad weather and roads the attendance was not as good as usual. Members present were Drs. Nason, Philinger, Hull, Pflueger, West, Smith and Francis.

Dr. H. V. Halbert of Chicago was present and read an interesting paper on "Treatment of Some Heart Diseases."

A committee appointed by the chair, consisting of Drs. Francis, West and Pillinger, drew up resolutions of sympathy on the death of Mrs. Windmueller, wife of Dr. E. Windmueller of Woodstock, one of our members.

ANNUAL MEETING OCT. 19, 1913.

The annual social meeting of the society was held at the Riverside Hotel in McHenry, Oct. 19, 1913. After a chicken dinner at which about twenty-five physicians and members of their families were seated, the meeting was called to order by the president, Dr. H. D. Hull. Present were Drs. Fegers, Hull, Guy, West, Seelye, Furlong, Foster, Stattler, Pflueger and Smith.

After the reading and approval of the minutes the secretary read two recent communications from the officers of the state society.

In regard to the matter of filing death certificates the secretary read the motion of the meeting of May 27, 1913, in which the undertakers were to be asked to fill out all of the blanks except the part relating to the cause of death (this to be filled out by the attending physician) and for the undertaker to forward the completed certificate to Springfield and collect the fee of 25 cents from the treasurer of McHenry county. The secretary announced that while the county clerk and treasurer of this county have endeavored to co-operate with us in this matter, they have finally decided that they are unable to do otherwise than to turn the fees over to the physician, as required by statute, and that we must amend our original motion accordingly. It was therefore

moved by the member who made the original motion, that we amend the same so that each doctor settle with the undertaker at the time he signs the certificate. Motion seconded and carried.

It was moved and carried that a copy of the proceedings of each meeting be sent to every physician in the county. To help meet the necessary expenses of the society an assessment of \$1 per member was voted.

A lengthy discussion of fees was then held. It was the opinion of all present that we ought and must endeavor more than ever in the matter of country calls, to hold up to our regular understood mileage, at any and all distances; and that where in any community or neighborhood there seems to be a discrepancy between the charges made by doctors of different towns, this ought, for our mutual welfare, to be settled between these different men in the best manner possible. And also that proper mileage should be charged on obstetric cases in the country.

Moved and carried to adjourn.

A. B. SMITH, Secretary.

MORGAN COUNTY

The Morgan County Medical Society met Oct. 9, 1913, at Jacksonville. Before luncheon, at Passavant Hospital, Dr. Carl E. Black operated on a recurrent appendicitis case. Recurrent attacks of pain, accompanied by tenderness and soreness, were the principal symptoms, nausea and vomiting being absent.

The white blood corpuscle count was 10,000. The appendix was constricted in its distal portion and thickened; proximally, there was an abscess cavity, the valve of Gerlach being occluded. Recovery uneventful.

After luncheon at the Peacock Inn, Dr. A. J. Ogram, vice-president, introduced Dr. H. A. Haskell, of Lynnville, who presented "Ulcerative Colitis" in an excellent paper which preceded an unusually well worked up report of a case occurring in his practice. Drs. Thompson, Black, Stacy and Langston discussed Dr. Haskell's paper.

Drs. Adams (chairman), Norris, Stacy and Milligan were appointed a committee to cooperate with the Woman's Club in promoting a public health meeting Nov. 8, to introduce Dr. Frank Allport who will speak upon "Medical Inspection of Schools."

Dr. Black reported progress of one or two cases shown last month. A sarcoma of the thigh case is progressing toward a Caesarean section for a delivery. A second fracture of the thigh, splinted internally with steel ribbons, is progressing satisfactorily. Dr. Adams reported a case of tonsillectomy in the adult and in connection laid stress on tonsils, carious teeth, etc., as being foci of rheumatic infection. Also reported a case of aneurysmal tumor of the throat diagnosed by others as enlarged tonsil. The case was referred to the house surgeon for observation. An internal carotid aneurysm was no doubt the pathological lesion; the patient was sixty-seven and arteriosclerotic.

Physicians present were Drs. A. J. Ogram, H. A. Haskell, A. L. Adams, C. E. Black, H. C. Woltman, J. M. Elder, Franklin; P. C. Thompson, W. E. Langston, Bath; and

GEORGE STACY, M. D., Secretary.

ROCK ISLAND COUNTY.

The Rock Island County Medical Society met in regular session at Manufacturers' Hotel, Moline, Tuesday, October 21, 1913, meeting having been postponed one week from prescribed date to avoid conflict with the annual meeting of Second Iowa District Medical Society. President Snively occupied the chair and there were present 23 members and 3 visitors: Love, Beam, Leopold, Eddy, Dart, Williams, Peterson, Donahoo, West, Snively, Rinehart, Sargent, Souders, Chapman, Seids, Long, Wiggins, Sala, Craig, G. G., Norman, Otis, Arp, Littig; visitors: Decker, Miller, Hauberg. Minutes of August meeting read and approved. Applications of Drs. D. B. Freeman and G. D. Hauberg of Moline and of Dr. R. B. Miller of Rock Island were read and committees appointed. Seids, Leopold and Beam on the Freeman application; Williams, Sala and Souders on that of Miller, and Peterson, West and Sargent on that of Hauberg. Bills allowed, Crescent Printing Co., \$1.50 and \$2.00. The paper of Dr. Eddy on "The Use of Thyroid Extract in Cases of Nephritis," and Dr. Otis' paper on "Gastric Ulcer and the Bismuth Paste" were read and freely discussed. Dr. Darts' call from the meeting necessitated the laying over of his paper. The president, by request of absent Dr. First, placed for the society's consideration and recommendation a proposal involving the establishment of a medical supervision for the public schools of Rock Island, and upon motion appointed a committee, Drs. First, Sargent and Williams, to investigate the plans in use in other cities and to report at next meeting. Adjournment upon motion was taken until December.

W. D. CHAPMAN, Secretary.

TAZEWELL COUNTY.

The following resolutions were passed by the Tazewell County Medical Society at the annual-meeting, in Pekin, Oct. 14, 1913:

Resolved, That medical products shall be acceptable for advertisement in the ILLINOIS MEDICAL JOURNAL only when their composition is stated and no exaggerated claims or misstatements are made in the literature.

Further, that the same rule should apply to external applications.

Further, that such biologic products as are produced under government license should be acceptable.

WM. NIERGARTH, President.

E. F. KELCHNER, Secretary.

WABASH COUNTY

The regular meeting of the Wabash County Medical Society was called to order by Vice-President

McIntosh at the Merchants Hotel, Mt. Carmel, Ill., Oct. 28, 1913. Minutes of last meeting accepted as read.

There were more than a score in attendance at the meeting and banquet, and in addition to the regular membership of the society, there were present as guests, Mayor C. A. Martin, Rev. Dr. S. M. Martin, the evangelist; Dr. B. E. Garrettson, of Wayne City; Dr. Andy Hall, Mount Vernon; Dr. Fred Brines, Lancaster, and Dr. Bert Smith, Allendale.

The banquet was served in the dining room of the Merchants Hotel.

The numbers on the program were interspersed with the courses of the banquet. Dr. John J. McIntosh, of Mt. Carmel, acted as toastmaster and introduced the speakers, as follows:

"Address of Welcome".....Mayor C. A. Martin
"Early Practice of Medicine in Wabash County"

.....Dr. McMurray
Table Talk—"The Social Life of Physicians"....

.....Opened by Dr. S. W. Schneck
Address—"Some Common Errors in Diagnosis"...

.....Dr. Andy, Hall, Mount Vernon, Ill.
Paper—"Suggestion in Medicine"...Dr. S. M. Martin

Dr. Martin, although of the ministry, is a graduate physician and has practiced not a little. His address was a very interesting one, and he cited numerous instances in which he had obtained precisely the same results as the Christian Scientists merely by using mental suggestion.

The election of officers for the ensuing year was the principal business transacted, the election resulting as follows: President, Dr. J. J. McIntosh; vice-president, Dr. Edwin Lescher; secretary, Dr. J. B. Maxwell; treasurer, Dr. W. B. Baird.

Drs. Edwin Lescher and S. W. Schneck were elected delegates to the next meeting of the State Medical Society which meets next spring.

The applications for membership of Drs. Brines of Lancaster, and Parmenter of Greensburg, were favorably acted upon and they were declared elected to membership in the society. The application of Dr. Bert Smith of Allendale, was received.

The meeting was one of the most successful the society has ever held and did much to arouse new interest in the work of the organization.

EDWIN R. LESCHER, Secretary.

YOUNG DOCTORS

Young doctors like to stretch a point,

Perhaps the statement's strong;

But if in doubt just hear me out,

Then say if I am wrong.

There's Dr. Drow, the embryo,

A month he's been in line;

Asked by Mrs. Quiz how business is,

He says—"why simply fine."

"I have a bunch of measles
And eight of typhoid, too,
With ten of grip and six of dip,
I have a lot to do."

"I am so rushed I scarce have time
To make another call."
But if you please the FACTS are these
He has no case at all.

When Mrs. Down called young Doc. Brown,
He came with all his graces;
She said she'd heard he was a bird
On handling O. B. cases.

"Experience vast has been mine in the past,
For this sort of work I've a thirst";
He held his ground and breathed not a sound
That really this case was his first.

Examining—then turning, so that of his learning
They would have a profound realization;
He said with firm voice—"well may we rejoice
For this is a head presentation."

"I say it meekly, with the head lying obliquely
And the occiput pointing to front,
Things will come normal, the procedure formal
This will be quite an easy stunt."

After waiting in vain, he examined again,
Good gracious! what caused pandemonium?
His frame fairly shook, as on taking a look
He saw his hand full of meconium.

Too sure at the start and a little too smart;
This case a moral does teach;
Look ere you leap—a wise council keep;
The head may perhaps be a breach.

A. G. BOSLER, Bacillus Poeticus.

From the Englewood Branch News Letter.

That Much Gained, Anyhow.

It is reported that Camembert cheese has gone down a cent since the new tariff law went into effect. Please do not get mixed on the spelling.—Ex.

Angelic.

Customer—"But is he a good bird? I mean, I mean, I hope he doesn't use dreadful language."

Dealer—"E's a saint lady; sings 'ymns beautiful. I 'ad some parrots wot used to swear something awful, but, if you'll believe me, this 'ere bird converted the lot."—*London Bystander.*

What's in a Name?

Printer: "This name—Fluteur—should be Tuteur, should it not?"

Editor: "Well, what's the difference? One could not be a Fluteur without being a good Tuteur."

Personals

Dr. and Mrs. William H. Mercer, Raymond, have sailed for Europe.

Drs. H. G. Schmidt, Elgin, and Frank Davenport, Rock Island, have returned from Mexico.

Dr. Otto L. Schmidt has been reappointed a trustee of the Illinois State Historical Library.

Dr. Clarence H. Wall, police ambulance surgeon, who was operated on for hernia, October 21, is convalescent.

Dr. George F. Tyson, Evanston, and Drs. Meyer Nuta and Robert Sonnenschein, Chicago, have returned from Europe.

Drs. Carl E. Black, Elmer L. Crouch and George H. Stacy have moved their offices to the Ayers Bank building, Jacksonville.

Dr. and Mrs. J. A. Pratt, of Aurora, have returned from a four months' trip abroad. The time was mostly spent in Vienna.

Dr. Solomon Eisenstaedt, Chicago, has been elected president of the Wendell Phillips Parents' and Teachers' Club for the year 1913-14.

Dr. Liston H. Montgomery has been appointed surgeon of the Eastern Division of the Chicago Great Western Railroad, to date from October 10.

Dr. J. Allen Patton, Newark, N. J., Rush Class of 1890, has been made Associate Medical Director of the Prudential Insurance Company.

Dr. Charles J. Whalen, Chicago, and Dr. Eugen Cohn, assistant superintendent of the Peoria State Hospital, were recently appointed First Lieutenants in the Medical Reserve Corps, U. S. Army.

Drs. L. B. Jolley, North Chicago, and V. J. Cokenour, Joliet, have learned not to advance the spark so far when cranking their autos. At least that is the usual verdict after fractures of the arm from that accident.

Dr. Frederick F. Brown, Rush Class of 1890, and for years associate professor of ophthalmology and otology, Rush Medical College, has discontinued practice and is taking a course in operatic music in Paris, where he expects to remain for at least three years.

Mr. Ernest P. Bicknell, director of the American Red Cross, announced that the work of the national body has become so heavy that it has been decided to divide the work into four divisions, of one of which Chicago is to be the headquarters.

News Notes

—The Chicago Roentgen Society was organized October 24. Dr. Hollis E. Potter was elected president and Dr. James T. Case, secretary.

—The advertising quacks are closing up their joints and leaving Chicago by every train if the stories in certain papers are to be taken seriously.

—Osteopaths cannot practice in Wisconsin without first obtaining a license, according to a ruling of the Supreme court in the case of one Herbert Schmidt, of Milwaukee.

—The new addition to the Prince Sanitarium, Springfield, will be occupied by Drs. Frank P. Norbury and Charles L. Patton. The first floor will be used for offices and the second floor and basement for sanitarium purposes.

—The JOURNAL invites signed correspondence from the members on matters that pertain to the material welfare of the profession or the JOURNAL. This gives the members a chance to express their views on any subject of interest to the medical profession.

—The Southern Illinois Medical Association held its thirty-eighth annual session at Duquoin November 6-7. President, Dr. Charles W. Lillie, East St. Louis; secretary, Dr. Alonzo B. Capel, Shawneetown. Mount Vernon was selected as the next place of meeting.

—Health Commissioner Young has asked an appropriation of \$1,190,278 for the Department of Health for the coming year. The actual increase over the last appropriation is \$450,000, of which \$335,000 is for reorganization of the department and increase in the staff.

—The Chicago Department of Health recently prosecuted Dr. L. D. Rogers for running the National Emergency Hospital without a hospital license. The court imposed a fine of \$100. Two of the fake medical museums have also closed their doors as the result of prosecution by the department.

—At the first meeting of the new Illinois State Board of Health held in Chicago, November 3, it was announced that the policies of the late board as regards prosecution of violators of the medical practice acts of Illinois and the enforcement of the laws of sanitation, will be continued by the new board. Dr. George W. Webster, Chicago, was continued as president of the board.

—The U. S. Bureau of Mines is to supervise the production of radium with the view of improving the process and avoiding the great waste of material in present methods. The work will be done in collaboration with capitalists who will establish free clinics for the use of radium in New York City and Baltimore.

—The civil-service examination for attending dispensary physicians in the dispensary department of the Chicago Municipal Tuberculosis Sanatorium, originally scheduled for Oct. 28, 1913, has been postponed to Nov. 24, 1913. The examination is open to all physicians residing in Chicago. Particulars may be obtained from the secretary of the Civil Service Commission, room 610, City Hall, Chicago.

—At the annual meeting of the Chicago Gynecological Society, October 17, the address of the evening was delivered by Mr. Leonard A. Busby, president of the Chicago City Railway Co., and the following officers were elected: President, Dr. Frank W. Lynch; vice-president, Dr. Henry F. Lewis; secretary, Dr. Robert T. Gillmore; treasurer, Dr. Charles B. Reed; editor, Dr. W. A. Newman, and pathologist, Dr. Arthur H. Curtis.

—We have received the following society publications: *The News-Letter* of Englewood Branch, *The Bulletin* of the North Shore Branch, *The Bulletin* of the Kane County Medical Association and *The Bulletin* of the Montgomery County Medical Society. The North Shore Branch publishes a sixteen-page pamphlet containing enough "ads" to pay all expense of publication and mailing and return a profit to the society.

—Rush alumni to the number of 275 held an enthusiastic banquet at the Hotel Sherman, Nov. 13. Dr. A. M. Corwin presided and submitted a proposition to raise an endowment fund of \$30,000. The alumni present subscribed \$3,500 and a plan was formulated for securing subscriptions from members of classes not present at the banquet. This fund is for alumni purposes, including endowments for scholarships and any other purposes that may appeal to the body of the alumni from time to time.

—The Kane County *Bulletin* contains the following touching farewell which smells of Dr. A. L. Mann's style: "Hail and Farewell! We have only two or three lines of space left, consequently cannot inflict upon you the voluminous

Valedictory which we had planned, but must be content with turning the *Bulletin* over to a new Publishing Committee, with the certainty that they will improve on our efforts. They *couldn't* do worse."

Who would have thought that he was such a modest man?

—Compliance with the requirements of the Income Tax Law on the part of physicians offers many problems but it promises much light on the economics of the practice of medicine. How many physicians, especially those in general practice, know their net income or keep a separate account of their professional expenses as distinguished from their personal and family outlay? It means a much more elaborate system of accounting than most of us are accustomed to. In estimating the exemption of \$3,000 only the expenses incidental to practice may be deducted from the gross income. How will you estimate the office rental, auto expense, etc., when your office is in your home and you take your family for an occasional "joy ride"?

—Gov. Dunne on October 28 appointed the following physicians members of the State Board of Health; Dr. John A. Robison, Chicago, vice Henry Richings, Rockford, term expired. Dr. T. B. Lewis of Hammond, vice P. H. Wessel, Moline, term expired. Dr. R. D. Luster of Granite City, vice R. E. Niedringhaus, Granite City, term expired. Dr. A. Szwajkart of Chicago, vice Charles J. Boswell, Mounds, term expired. Two members hold over. They are Dr. George W. Webster of Chicago, president, and Dr. Walter R. Schussler of Orland.

—At the special meeting of the Chicago Gynecological Society held in the Florentine Room of the Congress Hotel, November 15, at 8 p. m., papers were read by Dr. Lewis S. McMurtry, Louisville, on "The Foundation of Modern Gynecology and Abdominal Surgery"; by Prof. Dr. Kroenig, Freiburg, Germany, on "The Difference Between Former and Newer Treatments by X-Ray and Radium in Gynecological Diseases"; by Prof. Dr. Gauss, Freiburg, Germany, on "The Report of the Result of Radiotherapy in Gynecology"; by Dr. Thomas S. Cullen, Baltimore, on "The Umbilicus and Its Diseases," and by Dr. Robert L. Dickinson, Brooklyn, N. Y., on "Efficiency Engineering as Applied to Gynecological Surgery."

Public Health



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—The U. S. Department of Agriculture has recently had called to its attention, by letters from people all over the country, serious misstatements as to the effects of foods recommended by self-styled “experts in dietetics.”

In view of the widespread literature and advice of so-called “diet experts,” it seems desirable to warn people against adopting the dietary recommendations of those without real scientific standing in the community. Some of the advocates of freak diets are sincere, but are themselves deluded; while others are fakers, who seek to make monetary gain by advising peculiar systems. In most of the recommendations of these self-established “experts,” there is hardly a shadow of reason. They use isolated and often unrelated facts of science as evidence of the value of their peculiar system, but completely ignore statements in current scientific literature which would negative their contentions.

As an example they cite the fact that some one tried to raise rabbits wholly on cooked food,

and found that they did not thrive on a diet purely artificial to such animals. From this the “pseudo” expert deduces that because rabbits could not live wholly on cooked food, human beings should confine themselves to raw food. As raw food is natural to rabbits, so man has proved cooked food wholesome by uncounted centuries of use.

Many so-called diet systems urge the use of raw foods. There is no objection to eating raw food if it is appetizing, agreeable and wholesome. But experience shows that the average man thrives best upon clean, wholesome, mixed foods, well prepared in the usual ways; some cooked, others raw. Of course, these articles should be of good quality, free from adulteration and dirt (visible and invisible).

In general, raw food is not as clean as cooked food for the cooking sterilizes and so renders innocuous pathogenic bacteria. Raw foods should be very carefully washed, but as a general rule simple washing will not remove all the bacteria, insect eggs, spores of fungi, etc., that may adhere to them.

In some of the literature circulated by the advocates of raw food, their correspondents are urged not to eat animal food because they say meat is filled with bacteria. This is not true. The surface of meat is not sterile, but the interior is, except in rare cases. We do not often eat raw meat, except when dried, smoked and so practically sterilized. The proper handling of such food is essential.

THE FALLACY OF THE ENZYMES AND PARTICULAR CHEMICAL SUBSTANCES.

Some raw food advocates base their argument on the hypothesis that raw food supplies the body with necessary enzymes; or, that a certain food, such as whole wheat bread, supplies lime or some other special substance. The body, however, normally supplies all the ferments (enzymes) it requires, and the average mixed diets of Americans give them all the raw food that they require. If the American people ate nothing but wheat, it might be necessary to advise them to eat whole wheat rather than fine wheat flour in order to get some of the substances excluded from the flour by bolting. Recent investigation indicates that there is a valuable substance in bran, which is lacking in the interior of the wheat kernel. This substance, called by some vitamin, is, however,

present in many other foods, and an ordinary mixed diet supplies all of such material that the body needs. Whole wheat bread is wholesome and palatable and affords an easy way of securing variety in diet, desirable as well as pleasing. But the average American who usually gets plenty of the food constituents he needs in his other articles of diet, need not feel compelled to eat whole wheat bread exclusively, simply to supply one peculiar element.

So-called polished rice has been objected to upon the basis of investigations made in oriental countries where rice forms one of the chief staples of a very limited diet, and practically the only starchy food. People who live mainly on rice might be expected to need certain elements that are in the part of the rice that is polished off. But Americans do not live on a diet limited to rice. There is, therefore, no logical reason why they should not eat polished rice if they prefer it. Both polished and unpolished rice is wholesome and valuable.

If the deductions of many food faddists accepted as facts were really operative, it would be difficult to explain how the human race had survived. It should have expired very soon after man had progressed enough in intelligence to begin to exercise any choice in his food and to cook it. But civilization has advanced from the time when man began to cook.

Many of the people who offer dietetic advice for sale recommended a diet to cure diseases without seeing the patient.

In many cases, people on beginning a radically new diet, whether of direct curative value or not, gain or think they gain a benefit. Marked change in diet or cooking will often produce the same effect, because change itself is often a benefit. In cases of serious digestive disturbances, sufferers should consult a physician of known ability and standing. To submit such cases for treatment by mail is as foolish as it would be for one having a complicated and highly specialized business trouble to ask another who had never seen his factory, and knew nothing about the business, to supply him with a positive remedy at long-distance.

Much of the advice on diet which has passed from individual to individual, and much of the supposed scientific advice now being sold for a price by some of the food advisers, is really little more than folk lore.

The main thing, as one grows older, is to eat in moderation and then, as always, to see that what you eat is clean and that the cooked food you eat is originally in good condition and that it is well cooked. If you eat raw vegetables and fruits and raw milk, take precautions to see that they are clean before they enter your system. If something really disagrees with you, and the fault lies actually with the article rather than with the method by which it has been kept or cooked, stop eating that kind of food. If you experience serious discomfort which persists, consult the best physician you can discover.

As a general proposition, be wary of people who offer to give you advice or to cure you without ever seeing you. Finally, bear in mind that each human body has individual characteristics, and that a diet which admirably suits one man who lives in a certain location and does a certain kind of work may not be adapted to another individual living in a different climate and doing a different kind of work.

No advice is better than the old "Moderation in all things."

Marriage

JOHN EDWARD DOLAN, M.D., to Miss Josephine Connell, both of Chicago, October 15.

HAROLD M. CAMP, M.D., Monmouth, Ill., to Miss Rose Laura Fox, Chicago, October 16.

CHARLES O. BURGESS, M.D., Monmouth, Ill., to Miss Lura Harlin of South Bend, Ind., recently.

OSCAR CLEFF, M.D., Chicago, to Miss Zolier Jacqueline Parsons of Mansfield, La., November 5.

FREDERICK MORRIS FRANKFORT MEIXNER, Peoria, Ill., to Miss Lillian Payne of Chicago, October 18.

ISADORE MICHAEL TRACE, M.D., to Miss Miriam G. Haekner, both of Chicago, October 14.

GILBERT H. WYNEKOOP, M.D., to Miss Lucile Megahan, both of Chicago, November 20.

Deaths

WILLIAM G. TODD, M.D. Rush Medical College, 1844; of Chicago; died at the home of his daughter in that city, August 7, aged 91.

ALBA G. BLANCHARD, M.D., Eclectic Medical Institute, Cincinnati, 1882; a member of the Illinois State Medical Society; died at his home in Creston, October 28, from diabetes, aged 65.

ARMATUS S. HOLLAND, M.D., Chicago Homeopathic Medical College, 1896; for many years a practitioner of Chicago; died at his home November 2, from cerebral hemorrhage, aged 71.

FREDERICK EUGENE WADHAMS, M.D. Rush Medical College, 1878; a member of the Illinois State Medical Society, and for 56 years a resident of Chicago; for several years local surgeon for the Chicago & Northwestern Railroad; died at his home in Chicago, November 1, aged 60.

EDMUND T. ALLEN, M.D., Cleveland University of Medicine and Surgery, 1881; Hahnemann Medical College, Philadelphia, 1886; a Fellow of the American Medical Association; once secretary of the Nebraska State Board of Health; died suddenly at his home in Chicago, August 17, aged 57.

EDWARD H. HIGBEE, M.D., Missouri Medical College, St. Louis, 1884; a member of the Illinois Medical Society; one of the founders of the Polyclinic Hospital, St. Louis; surgeon for the Chicago & Alton Railroad at Roodhouse, Ill., and alderman for several years; died at his home, November 3, from pneumonia, aged 66.

ARIA LOUIS DERDIGER, M.D. College of Physicians and Surgeons, Chicago, 1903; a Fellow of the American Medical Association; assistant in bacteriology in his alma mater; professor of psychiatry and ophthalmology in the Chicago College of Medicine and Surgery; president of the Chicago Eye, Ear, Nose and Throat Infirmary; died at his home in Chicago, November 12, aged 47.

HIRAM M. MARTIN, M.D., University of Michigan, Ann Arbor, 1879; a member of the Illinois State Medical Society; president and professor of diseases of the eye and ear in the Chicago Ophthalmic College; president and professor of diseases of the eye and ear and clinical ophthalmology and otology in Jenner Medical College, Chicago; died in the Passavant Hospital, Chicago, September 29, aged 54.

HERMAN D. PETERSON, M.D., Chicago Medical College, 1892; a Fellow of the American Medical Association; a member of the Physicians' Club of Chicago and Mississippi Valley Medical Association;

anesthetist to St. Luke's Hospital, Chicago, and attending gynecologist to St. Luke's Hospital Free Dispensary; lecturer on anesthetics in Northwestern University Dental School; died October 18, while being taken to St. Luke's Hospital, from pneumonia, aged 43.

WILLIAM HERBERT DENSLOW LEWIS, M.D., University of Michigan, 1878; born in New York, April 2, 1856, was educated in America and abroad and was licensed in Illinois in 1878; for many years a member of the American Medical Association and in 1906 chairman of the Section on Hygiene and Sanitary Science. He served as president of the attending staff at the Cook County Hospital, and was a member of many societies and state boards for the study of various phases of sanitary science; died in Chicago, October 5, 1913, aged 57 years.

Book Notices

THE TREATMENT OF RHEUMATIC INFECTIONS. From the press of Parke, Davis & Co.

This little volume of 134 pages is out in the interest of Phylacogens. The first page gives the views of Dr. A. F. Schafer and the theory upon which he worked in perfecting the bacterial derivative.

The subject of rheumatism is discussed at length in its various phases. The cause, the prognosis, the treatment, are all given attention. The technique of administration is described in detail, together with the reactions which may be expected, and also the contraindications for its use.

Over half of the volume is given over to case histories and extracts of articles written by various clinicians scattered throughout this country. Perhaps wild statements have been made by enthusiasts of every biological product that has thus far been produced; in fact, many such products of value have suffered from such enthusiasm, notably "Koch's Tuberculin," but one cannot read these extracts and case histories—noting the names of the men who are responsible for them—and say that these men have all been carried away by their enthusiasm.

One wishing to use Phylacogen will derive much information from this booklet.

THE PRACTICAL MEDICINE SERIES. VOLUME VII, "OSTETRICS," edited by Joseph B. De Lee, A. M., M. D., Professor of Obstetrics, Northwestern University Medical School, with the collaboration of Herbert M. Stowe, M. D. Series 1913. Chicago. The Year Book Publishers, 327 S. La Salle Street.

This little volume seems to cover everything that is new in the field of obstetrics and reviews much that is not altogether new. The newer drugs used in obstetric practice are discussed, and the pages on

puerperal sepsis are very timely. Operative obstetrics receive a generous review. The book should be read by all who are practicing obstetrics.

Price of this volume \$1.35. Price of the series of ten volumes, \$10.

MODERN MEDICINE. ITS THEORY AND PRACTICE. In original contributions by American and foreign authors. Edited by Sir William Osler, Bart., M. D., F. R. S., regius professor of medicine in Oxford University, England; honorary professor of medicine in Johns Hopkins University, Baltimore; formerly professor of clinical medicine in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal; and Thomas McCrae, M. D., professor of medicine in the Jefferson Medical College, Philadelphia; fellow of the Royal College of Physicians, London; formerly associate professor of medicine in Johns Hopkins University, Baltimore. In five octavo volumes of about 1,000 pages each, illustrated. Volume I, Bacterial Diseases, Diseases of Doubtful or Unknown Etiology, Non-Bacterial Fungus Infections, the Mycoses. Just ready. Price per volume, cloth, \$5.00 net; half morocco, \$7.00 net. Lea & Febiger, publishers, Philadelphia and New York.

It seems only a very short time since the first edition of this truly monumental work was received by the profession. One could hardly have foreseen the coming of the second edition so soon.

In the revision many changes have been made. A very important change is the change in type—the new being larger and much clearer. The size of the page is somewhat larger than in the old, and nearly 200 pages have been added to the first volume. The new revision comes out in five volumes. The mechanical make-up is good. The revision of the scientific side is highly satisfactory. The subjects discussed are brought down to today's views on these subjects, and are surprisingly complete.

The chapters on Infection and Immunity are up to the hour and leave nothing more to be said until other discoveries are made. The chapter on Typhoid Fever brings out the old, together with everything we have that is new. The chapters on Tuberculosis are complete. These chapters alone are very valuable to medical literature, and should be read by every physician.

As a system of medicine, we think this excels.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS. For students and physicians. By John H. Musser, M. D., LL. D., late professor of clinical medicine in the University of Pennsylvania; formerly president of the American Medical Association, etc. New (sixth) edition, revised by John H. Musser, Jr., B. S., M. D., instructor in medicine in the University of Pennsylvania; assistant physician to the Philadelphia Hospital; physician to the medical dispensary of the Presbyterian Hospital; physician to the medical dispensary of the hospital of the University of Pennsylvania. Octavo, 793 pages,

with 196 engravings and 27 colored plates. Cloth, \$5.00 net. Lea & Febiger, publishers, Philadelphia and New York, 1913.

When a medical text-book has run its sixth edition, its place in medical literature has been attained. Any work from the pen of the author of the original work—the elder Musser—needs no recommendation to the medical profession. But time goes on, new discoveries are made, even new diseases appear, and since his work was completed, many things new have come in medicine—particularly is this true in diagnosis.

The work covers a large field, but the author has reduced it to the full extent consistent with clearness. Its chapters on Examination of the Heart and Lungs and diagnosis of the pathologies of these organs are especially valuable. The illustrations that go with these chapters are excellent.

The type is of good size, and the mechanical work is good. We recommend it to students and practitioners.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING. By Henry R. Wharton, M. D., surgeon of the Presbyterian Hospital and the Children's Hospital; consulting surgeon to St. Christopher's Hospital, the Bryn Mawr Hospital and Girard College; fellow of the American Surgical Association. Eighth edition, enlarged and thoroughly revised, with 370 illustrations. Lea & Febiger, Philadelphia and New York, 1913.

The eighth edition of this valuable handbook is just from the press. It is a very excellent and handy volume for the medical student or hospital interne.

Part I is descriptive of various bandages and is especially complete. This part of the book is cleverly and profusely illustrated.

Part 2 deals with minor surgery and illustrates many minor operative dressings and appliances. The chapters on fractures and dislocations are supplemented by many skiagraphs. Many illustrations of splints and appliances are given. One chapter is given to the ligation and operative procedures on arteries. The various amputations that may be done are described briefly in part 7. The last chapter is given to general surgery.

It is a work that may be picked up by the student or practitioner for a review of technique in a very brief way.

ESSENTIALS OF PRESCRIPTION WRITING. By Cary Eggleston, M. D., instructor in pharmacology, Cornell University Medical College, New York City. 32mo. of 115 pages. W. B. Saunders Company, Philadelphia and London. Cloth, \$1 net. 1913.

Perhaps the things the recent graduate knows least about is prescription writing. Most of us had but little instruction on this branch while in medical college. Many men know what drug they want; they may know all about the dosage and therapeutics of it and all else, yet do not know how to write a proper prescription containing it.

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